

学校的理想装备

电子图书·学校专集

校园网上的最佳资源

速算·简算



前 言

数学是一切科学的基础，是发展思维的体操，数学是小学阶段最重要的一门基础学科。学好数学是每个小学生的重要任务，也是每位家长和教师时刻关心的大事。

解答数学问题是小学生学习数学的主要途径。作为小学生，在学习数学的过程中，无论是理解掌握基础知识，还是发展能力、增长智慧，都需通过解答各种各样的数学题去实现。平时测查、期末考核和各级各类数学竞赛也是通过解答数学题进行的。可见，解题能力是衡量小学生数学学习质量的主要标准。因此掌握解题的技巧和方法，提高解题能力，对于小学生来说是极其迫切、极其重要的。

为了帮助小学生进行解题基本功训练，迅速掌握解题技能技巧，提高分析问题解决问题的能力，我们组织具有丰富教学、教研经验的著名特级教师、优秀教师和教学研究人员共同编写了这套《小学生数学解题十项全能训练》丛书。本套丛书包括十册，是按小学数学学习的内容和解题基本功训练的要求，科学地、系统地划分并编写的。

每册书按知识体系和基本功训练要求分为若干章和若干小节。每小节均由典型例题和练习题两部分组成。

本套丛书的编写做到了三个“精心”：

1.精心设计典型例题。通过对典型例题的剖析解答，开阔学生的思路，启迪学生的思维，掌握解题的技巧和方法。

2.精心安排练习题。练习题富有针对性，并与例题紧密配合。通过解答练习题，使学生进一步理解算理，巩固解题技能技巧，进行基本功训练。

3.精心编拟综合训练题。每册书编拟三套综合训练题，分A、B、C卷。通过解答综合训练题，可以帮助学生了解自己掌握解题技能技巧的程度。

每册书后附有全部练习题的答案，供学生、家长和教师参考。

本套丛书根据小学数学学习的基本内容和解题基本功训练的标准要求，精选编拟了各级各类测试和练习中出现的各种题型，具有系统性针对性强，知识覆盖面广，解法新颖灵活等特点，是学生进行解题基本功训练，提高分析推理和解决数学问题能力的最佳读物。本套丛书既可做为课堂教学的补充读物，也可做为家长辅导孩子的补充资料。因此，本套丛书不仅是小学生学好数学的良师益友，也是家长和教师辅导孩子的参谋助手。

编者

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小学生数学解题十项全能训练 速算·简算

一 整、小数速算

1. 加减法

【例题】

例 1 看横式直接写出得数。

$$(1)123 + 476 \quad (2)8.61 - 3 \quad (3)73 - 60 + 1.3$$

解：(1) $123+476=599$ (2) $8.61-3=5.61$

(3) $73-60+1.3=14.3$

例 2 $374 + 196$

解： $374+196$
 $=374+200-4$
 $=574-4$
 $=570$

例 3 $789 - 497$

解： $789-497$
 $=789-500+3$
 $=289+3$
 $=292$

例 4 $8.54 - 4.59$

解： $8.54-4.59$
 $=8.54-4.54-0.05$
 $=4-0.05$
 $=3.95$

例 5 $66 + 6.55$

解： $66+6.55$
 $=66+6+0.55$
 $=72+0.55$
 $=72.55$

例 6 $480 - 182 - 118$

解： $480-182-118$
 $=480-(182+118)$
 $=480-300$
 $=180$

例 7 $647 - (216 - 18)$

解： $647-(216-18)$
 $=647-198$
 $=647-200+2$
 $=449$

例 8 $(639 - 197) + (247 + 304)$

解： $(639-197) + (247+304)$
 $=(639-200+3) + (247+300+4)$
 $=442+551$
 $=993$

【练习】

1. 看横式直接写出得数。

(1) $96 + 29 =$

(2) $84+45 =$

(3) $78+47 =$

(4) $100 + 125 =$

(5) $127 + 16 =$

(6) $15 + 28 =$

(7) $29 + 14 =$

(8) $240+13 =$

(9) $54 + 41 =$

(10) $32+45 =$

(11) $63+21 =$

(12) $77+23 =$

(13) $80 - 36 =$

(14) $43 - 24 =$

(15) $48 - 19 =$

(16) $20+50+8 =$

(17) $47 - 7 - 15 =$

(18) $73 - 60 + 13 =$

(19) $88+12 - 75 =$

(20) $0.5+0.05 =$

(21) $0.7+0.9 =$

(22) $1 - 0.4 =$

(23) $3.5 - 0.8 =$

(24) $5.14 - 5 =$

$(25) 0.33 + 0.67 =$

$(26) 3.6 - 0.6 =$

$(27) 3.2 + 4.5 + 2 =$

$(28) 13.6 - 7 - 4 =$

2. 在下面 内填上适当的数，在 填上适当的运算符号。

$(1) 674 + 294 = 674 + 300 -$

$(2) 774 + 599 = 774 + \quad -$

$(3) 142 + 1996 = 142 + 2000$

$(4) 483 + 205 = 483 +$

$(5) 1458 - 398 = 1458 -$

$(6) 869 - 599 = 869 - 600 \quad 1$

$(7) 1483 - 397 = 1483 - \quad +$

$(8) 1234 - 998 = 1234 -$

$(9) 4495 - 3999 = 4495 -$

$(10) 475 + 295 = 475 \quad 300 \quad 5$

$(11) 369 - 194 = 369$

$(12) 836 - 94 - 506 = 836 - (\quad)$

$(13) 2000 - 725 - 275 = 2000 \quad (725 \quad)$

$(14) 6.59 - 3.98 - 0.02 = 6.59 \quad (\quad)$

3. 计算下列各题。

$(1) 168 + 205$

$(2) 408 - 203$

$(3) 458 + 298$

$(4) 539 - 498$

$(5) 402 + 564$

$(6) 537 - 299$

$(7) 664 - 496$

$(8) 395 + 449$

$(9) 1239 + 292$

$(10) 827 + 397$

$(11) 4159 - 994$

$(12) 1048 + 509$

$(13) 1849 - 498$

$(14) 383 + 699$

$(15) 578 - 99$

$(16) 443 + 305$

$(17) 932 - 304$

$(18) 738 - 498$

$(19) 374 + 196$

$(20) 1584 - 997$

4. 计算下列各题。

$(1) 126 - 72 - 28$

$(2) 573 - 84 - 116$

$(3) 4354 - 625 - 375$

$(4) 513 - 129 - 371$

$(5) 542 - 328 - 72$

$(6) 1290 - 132 - 168$

$(7) 627 - 45 - 55 - 27$

$(8) 243 - (143 + 76)$

$(9) 549 - (249 + 157)$

$(10) 1642 - 642 - 671$

5. 计算下列各题。

$(1) 3.8 - 1.84$

$(2) 11.62 + 3.3$

$(3) 12.56 - 0.9$

$(4) 13.6 + 10.9$

$(5) 9.87 + 2.03$

$(6) 54.2 - 2.8$

$(7) 32.5 - 0.98$

$(8) 3.62 + 4.8$

$(9) 6.7 - 3.71$

$(10) 596.3 - 3.7$

6. 计算下列各题。

$(1) 9.53 - 3.78 - 0.22$

$(2) 18.48 - (2.48 + 15.6)$

$(3) 1.56 - 0.82 - 0.18$

$(4) 6.5 - 1.48 - 0.52$

$(5) 13.04 - 7.6 - 2.4$

$(6) 17.3 - 5.24 - 1.76$

$$(7) 40.05 - 8.29 - 11.71 \qquad (8) 7.03 - 0.674 - 1.326$$
$$(9) 7.91 - (4.91 + 2.6) \qquad (10) 18.85 + 2.61 - 0.247$$

下面各题对吗？不对，指出错误的地方并改正过来。

$$(1) 1453 - 397$$

$$= 1453 - 400 - 3$$

$$= 1050$$

$$(2) 65.1 - (25.1 + 1.8)$$

$$= 65.1 - 25.1 + 1.8$$

$$= 40 + 1.8$$

$$= 41.8$$

$$(3) 486 - 168 - 22$$

$$= 486 - (168 + 22)$$

$$= 486 - 200$$

$$= 286$$

$$(4) 263 + 29.6$$

$$= 263 + 30 - 0.4$$

$$= 293 - 0.4$$

$$= 292.6$$

$$(5) 3286 - 1005$$

$$= 3286 - 1000 - 5$$

$$= 2291$$

$$(6) 2007 + 1364$$

$$= 2000 + 1364 + 7$$

$$= 3371$$

8. 看谁算得又对又快。

$$(1) 86 + 78$$

$$(2) 167 - 88$$

$$(3) 2398 + 249$$

$$(4) 387 + 169$$

$$(5) 3.47 - 1.69$$

$$(6) 3.48 - 1.79$$

$$(7) 145 + 94$$

$$(8) 398 + 156$$

$$(9) 2273 - 652 - 348$$

$$(10) 1993 - 765 - 238$$

$$(11) 125.8 - 46.5 - 53.5$$

$$(12) 1992 - 351 - 649$$

$$(13) 457 - (124 + 72)$$

$$(14) (238 - 98) + (156 + 201)$$

9. 速算。

$$(1) 1275 - (167 + 275)$$

$$(2) 437 + (563 - 298)$$

$$(3) 625 - (125 + 378)$$

$$(4) 542 - (342 - 175)$$

$$(5) 859 - 239 - 341 - 20$$

$$(6) 5405 - (405 + 240)$$

$$(7) 1750 - (750 - 290)$$

$$(8) 2480 - (616 - 520)$$

$$(9) 4250 - 294 + 94$$

$$(10) 2730 - (824 - 270)$$

$$(11) 4695 - (695 - 480)$$

$$(12) 9999 + 999 + 99 + 9$$

2. 乘除法

【例题】

例 1 看横式直接写出得数。

$(1) 6048 \times 3$

$(3) 4.9 \div 0.7 \times 120$

解：(1) $6048 \times 3 = 18144$

(3) $4.9 \div 0.7 \times 120 = 840$

例 2 26×15

解： 26×15

$$= (26 \div 2) \times (15 \times 2)$$

$$= 13 \times 30 = 390$$

例 4 $48 \div 0.5$

解： $48 \div 0.5$

$$= 48 \times 2$$

$$= 96$$

例 6 $4900 \div 4 \div 25$

解： $4900 \div 4 \div 25$

$$= 4900 \div (4 \times 25)$$

$$= 4900 \div 100 = 49$$

$(2) 108 \div 27$

(2) $108 \div 27 = 4$

例 3 225×0.5

解： 225×0.5

$$= 225 \div 2$$

$$= 112.5$$

例 5 68×5

解： 68×5

$$= 68 \times 10 \div 2$$

$$= 680 \div 2 = 340$$

例 7 $165 \div (5 \times 0.1)$

解： $165 \div (5 \times 0.1)$

$$= 165 \div 0.5$$

$$= 165 \times 2 = 330$$

【练习】

10. 看横式直接写出得数。

$(1) 720 \times 4 =$

$(3) 125 \times 8 =$

$(5) 25 \times 40 =$

$(7) 320 \times 20 =$

$(9) 369 \times 4 =$

$(11) 84 \div 42 =$

$(13) 260 \div 13 =$

$(15) 153 \div 51 =$

$(17) 12 \times 3 \div 6 =$

$(19) 2 \times 1.8 =$

$(21) 0.88 \times 0.1 =$

$(23) 4.2 \div 3 =$

$(25) 0.12 \div 6 =$

$(27) 2.5 \times 4 \div 10 =$

$(2) 603 \times 4 =$

$(4) 17 \times 7 =$

$(6) 780 \times 100 =$

$(8) 2050 \times 8 =$

$(10) 3054 \times 7 =$

$(12) 750 \div 15 =$

$(14) 450 \div 90 =$

$(16) 680 \div 17 =$

$(18) 12 \div 4 \times 3 =$

$(20) 0.9 \times 0.11 =$

$(22) 0.1 \times 0.1 =$

$(24) 0.48 \div 4 =$

$(26) 3.8 \div 19 =$

$(28) 0.1 \div 0.01 \times 0.8 =$

11. 在下面 内填上适当的数，在 填上适当的运算符号。

$(1) 48 \times 15 = (48 \div \quad) \times (15 \times 2)$

$(2) 22 \times 15 = (22 \div \quad) \times (15 \times \quad)$

$(3) 36 \times 15 = (36 \quad 2) \times (15 \quad)$

$(4) 82 \times 15 = (82 \quad) \times (15 \quad)$

$(5) 456 \times 0.5 = 456 \div$

$(6) 94 \div 0.5 = 94 \times$

$(7) 224 \times 0.5 = 224 \quad 2$

$(8) 68 \div 0.5 = 68 \quad 2$

$(9) 128 \times 0.5 = 128$

$(10) 46 \div 0.5 = 46$

- (11) $96 \times 5 = 96 \times \quad \div$
(12) $84 \times 5 = 84 \quad \div$
(13) $260 \div 4 \div 25 = 260 \div (\quad \times \quad)$
(14) $3700 \div 8 \div 125 = 3700 \div (\quad)$

12. 计算下列各题。

- | | |
|---------------------|----------------------|
| (1) 12×15 | (2) 24×15 |
| (3) 36×15 | (4) 48×15 |
| (5) 42×5 | (6) 86×5 |
| (7) 58×5 | (8) 63×5 |
| (9) 360×5 | (10) 1440×5 |
| (11) 16×15 | (12) 82×15 |

13. 计算下列各题。

- | | |
|----------------------|-----------------------|
| (1) 69×0.5 | (2) 298×0.5 |
| (3) $720 \div 0.5$ | (4) $478 \div 0.5$ |
| (5) 78×0.5 | (6) 146×0.5 |
| (7) $56 \div 0.5$ | (8) $80 \div 0.5$ |
| (9) 438×0.5 | (10) 125×0.5 |
| (11) $1600 \div 0.5$ | (12) $9000 \div 0.5$ |
| (13) $96 \div 0.5$ | (14) 427×0.5 |

14. 计算下列各题。

- | | |
|----------------------------|------------------------------|
| (1) $4800 \div 25 \div 4$ | (2) $68000 \div 4 \div 25$ |
| (3) $5400 \div 4 \div 25$ | (4) $36000 \div 8 \div 125$ |
| (5) $9100 \div 125 \div 8$ | (6) $3200 \div 4 \div 25$ |
| (7) $6000 \div 8 \div 125$ | (8) $504000 \div 125 \div 8$ |

15. 计算下列各题。

- | | |
|----------------------|-----------------------|
| (1) 8.6×15 | (2) 3.2×15 |
| (3) 4.8×15 | (4) 7.2×15 |
| (5) 6.4×5 | (6) 0.72×5 |
| (7) 2.4×5 | (8) 0.38×5 |
| (9) 1.06×15 | (10) 0.024×5 |

16. 计算下列各题。

- | | |
|-----------------------|-----------------------|
| (1) 15.6×0.5 | (2) 13.8×0.5 |
| (3) 2.56×0.5 | (4) 0.32×0.5 |
| (5) $14.3 \div 0.5$ | (6) $0.35 \div 0.5$ |
| (7) $7.6 \div 0.5$ | (8) $26.5 \div 0.5$ |
| (9) 19.6×0.5 | (10) $0.18 \div 0.5$ |

17. 计算下列各题。

- | | |
|------------------------------|-------------------------------|
| (1) $800 \div 4 \div 2.5$ | (2) $5200 \div 0.4 \div 25$ |
| (3) $29000 \div 8 \div 1.25$ | (4) $1900 \div 0.8 \div 12.5$ |
| (5) $14.7 \div 4 \div 0.25$ | (6) $3.3 \div 0.8 \div 12.5$ |
| (7) $89.5 \div 25 \div 0.4$ | (8) $282.6 \div 4 \div 25$ |

18. 下面各题对吗？不对，指出错误的地方并改正过来。

- (1) 14×15
 $= (14 \times 2) \times (15 \times 2)$

$$=28 \times 30 = 840$$

$$(2) 76 \times 5$$

$$= 76 \div 2 \times 10$$

$$=38 \times 10=380$$

$$(3) 4.2 \times 0.5$$

$$= 4.2 \times 10 \div 2$$

$$=42 \div 2 = 21$$

$$(4) 139 \div 0.4 \div 2.5$$

$$=139 \div (0.4 \times 2.5)$$

$$=139 \div 10=13.9$$

19. 看谁算得又对又快。

$$(1) 28 \times 15$$

$$(2) 3.6 \div 0.5$$

$$(3) 440 \times 5$$

$$(4) 12.8 \times 0.5$$

$$(5) 1.2 \times 15$$

$$(6) 9.8 \times 5$$

$$(7) 65 \div 0.5$$

$$(8) 207 \times 0.5$$

$$(9) 7700 \div 4 \div 25$$

$$(10) 4.6 \div 0.4 \div 25$$

$$(11) 26000 \div 8 \div 125$$

$$(12) 73.6 \div 12.5 \div 0.8$$

$$(13) 184 \div (5 \times 0.1)$$

$$(14) 96 \times (75 \div 15)$$

20. 速算。

$$(1) 3300 \div 75 \div 4$$

$$(2) 24024 \div 4 \div 6$$

$$(3) 2.1 \div 35 \times 5$$

$$(4) 3.4 \times 400 \div 200$$

$$(5) 18264372 \times 5$$

$$(6) 1.25 \times 10.4$$

$$(7) 160 \times 50 \div 40$$

$$(8) 6600 \div 5 \div 11$$

$$(9) 720 \div (9 \times 16)$$

$$(10) 1600 \div (400 \div 32)$$

$$(11) 4 \times (700 \div 28)$$

$$(12) 2.5 \times (40 \times 3.7)$$

3. 四则混合运算

【例题】

例 1 看横式直接写出得数。

$$(1) 840 \div 4 + 0 \times 3$$

$$(2) 800 - 600 \div 3 \times 2$$

$$(3) 160.7 - (34.8 + 25.2) \times 2$$

解：(1) $840 \div 4 + 0 \times 3 = 210$

$$(2) 800 - 600 \div 3 \times 2 = 400$$

$$(3) 160.7 - (34.8 + 25.2) \times 2 = 40.7$$

例 2 $2134 + 576 \times 8 \times 32 \times 0 - 133$

解： $2134 + 576 \times 8 \times 32 \times 0 - 133$

$$= 2134 + 0 - 133$$

$$= 2001$$

例 3 $12.5 \times 0.8 - (7 + 0.35) - 0.65 \times 1$

解： $12.5 \times 0.8 - (7 + 0.35) - 0.65 \times 1$

$$= 10 - 7.35 - 0.65$$

$$= 10 - (7.35 + 0.65)$$

$$= 10 - 8 = 2$$

例 4 $5.8 \div 1 - [0 \div (6.24 + 3.76) + 1.7 \times 1]$

解： $5.8 \div 1 - [0 \div (6.24 + 3.76) + 1.7 \times 1]$

$$= 5.8 - [0 + 1.7]$$

$$= 5.8 - 1.7 = 4.1$$

【练习】

21. 看横式直接写出得数。

(1) $7 - 56 \div 8 \times 0 =$

(2) $73 \times 1 - 28 \div 28 =$

(3) $14 + 14 \div 14 - 13 =$

(4) $35 + 4 \times 9 \div 6 =$

(5) $20 \div 5 \times 4 - 5 =$

(6) $(650 - 650) \div 650 \times 8 =$

(7) $7 \times (21 \div 3 - 2) =$

(8) $170 \times 0 \div 8500 + 82 =$

(9) $50 \times (50 - 0 \div 50) =$

(10) $100 + (100 - 25 \times 4) =$

(11) $6.7 - 0 \times 0.7 + 0.7 =$

(12) $(10 - 10) \times 10 \div 10 =$

(13) $30.5 \div 1 \times 1 \div 30.5 =$

(14) $2.1 + (4.2 - 0.2) \times 0 =$

(15) $1 + 0.8 \times (1 - 0.4) =$

(16) $1 + 0.9 \times 1 - 0.4 =$

(17) $3.4 - 0.2 \div 0.2 \times 1.4 =$

(18) $(3.9 \div 3 + 0.7) \times 5 =$

(19) $(3.6 - 1.2) \times (0.5 + 0.5) =$

(20) $12.5 \times (9.6 - 1.6) \div 1 =$

(21) $0.4 \div 1 \times (1.3 + 1.2) =$

(22) $45 \div 5 - 3 \times 2 =$

(23) $(12 - 2) \times (3 + 6) =$

(24) $16 \times 4 \div 8 + 0.8 =$

(25) $(96 + 14) \div 11 - 10 =$

(26) $(1.5 + 4.5) \div (9.2 - 3.2) =$

(27) $180 \div 15 - 5 \times 2 =$

(28) $(15.54 \div 3.7 + 28) \times 0 + 2.25 =$

22. 计算下列各题。

(1) $1 \div 1 + 0 \div 63 + 63 \times 1$

(2) $32 \div 32 + 0 \div 32 \times 32 + 32 \times 1$

(3) $25 \times 8 \div 20 - 7.85 \div 7.85$

(4) $45 + 1001 \times 99 \times 0 - 12$

(5) $4379 \times 0 + 1 \times 618 \div 618$

(6) $0.5 \div 0.5 - 0 \times 1 \div 19.4 + 1$

(7) $1375 - 375 \div 25 \times 80 \times 0 + 22$

(8) $1000 + 250 \div 2 \times 8$

(9) $0.5 \times 4 + 0 \div 5.6 - 0.7 \div 1$

(10) $75850 \div 37 \times 0 + 8 \times 110$

(11) $2.5 \times 4 - 3.8 \div 1 + 5.7 \div 3 \times 0$

(12) $1268 + 347 \times 9 \times 23 \times 0 - 268$

23. 计算下列各题。

- (1) $8540 \div 35 - 0 \times 112 + 999 \div 1$
- (2) $379 \times 0 + 1 \times (0 \div 3456 + 68)$
- (3) $2 \times (101 + 0 \div 813) + 399 \div 1$
- (4) $680 \div 17 + 24 \times (20 - 80 \div 4)$
- (5) $1 - (9.2 \div 9.2 + 0.25 \times 4) \times 0.5$
- (6) $(24.8 - 12.57 - 7.43) \div 8 + 1.2$
- (7) $15 + (12.9 - 0.4) \times 0.8$
- (8) $1000 + (104 - 13 \times 8) \div 8$
- (9) $12.5 \times 0.8 - (0.95 - 0.3) - (7 + 0.35)$
- (10) $1 \div 1 + (0 \div 6.32 + 6.32 \times 1)$
- (11) $4.9 \div 1 - 0 \div (5.6 + 4.4) + 3.2$
- (12) $2.5 \times 4 - (1 + 0.73) - 2.27 \times 1$

24. 计算下列各题。

- (1) $[(7820 - 1682) \times 0] + 795 \div 795 \times 6$
- (2) $1000 - [15 + (120 - 60 \times 2) \times 29] \div 15$
- (3) $15 + [12.9 - (0.2 + 1.4 \div 7)] \times 0.8$
- (4) $[1.8 - 1.8 \times (1.8 - 1.8)] \div 9$
- (5) $[0 \div 18 + (41.47 + 38.53) \div 8] \times 2.5$
- (6) $[0.25 \div (0.8 + 0.2) - 0.25] \times 3.827 + 1$
- (7) $10 - 1.8 \div [0.6 \times (1.7 + 1.3)]$
- (8) $[(12 - 2.7) \div 9.3 - 0 \div 9.3] \div 0.25$

25. 看谁算得又对又快。

- (1) $1 \times 45 + 1001 \times 99 \times 0 - 35 \div 1$
- (2) $1 \div 1 + 0 \div 72 + 72 \times 1 - 0.13 \times 100$
- (3) $0.6 \times (2.8 - 2.8) \div (0.6 + 0.3)$
- (4) $1.44 \div 1 + [1.2 \times (0.742 + 0.458) \times 0]$
- (5) $[5.5 - 5.5 \times (5.5 - 5.5)] \div 5$
- (6) $12.5 - 12.5 \times 0.08 \div 2$
- (7) $1 \div 1 + 0 \div 6.32 + 6.32 \div 1$
- (8) $[24 \times 5 - (56 \div 7 - 8)] \times 10$

26. 速算。

- (1) $4 \times (800 \div 32) + 56$
- (2) $(50 + 6.8) \div 2.5 \div 0.4 - 0.7$
- (3) $3600 \div 72 - 248 \times 23 \div 124$
- (4) $[372 - (272 - 145)] \div (69 + 31)$
- (5) $400 \times 4 \div (200 \div 12) - 90$
- (6) $(10 + 2.5) \times 7.2 \div 9 - (1 - 0.3)$

二、分数速算

1. 加减法

【例题】

例1 看横式直接写出得数。

$$(1) \frac{1}{8} + \frac{3}{8} \qquad (2) 5 - \frac{2}{3}$$

$$(3) \frac{5}{13} + \frac{4}{13} - \frac{7}{13} \qquad (4) 2\frac{1}{2} - 1\frac{2}{5}$$

$$\text{解：}(1) \frac{1}{8} + \frac{3}{8} = \frac{1}{2} \qquad (2) 5 - \frac{2}{3} = 4\frac{1}{3}$$

$$(3) \frac{5}{13} + \frac{4}{13} - \frac{7}{13} = \frac{2}{13} \qquad (4) 2\frac{1}{2} - 1\frac{2}{5} = 1\frac{1}{10}$$

$$\text{例2 } 4\frac{3}{11} - \frac{4}{7} - \frac{3}{7}$$

$$\text{解：} 4\frac{3}{11} - \frac{4}{7} - \frac{3}{7} = 4\frac{3}{11} - (\frac{4}{7} + \frac{3}{7}) = 4\frac{3}{11} - 1 = 3\frac{3}{11}$$

$$\text{例3 } 3\frac{1}{6} - (\frac{1}{6} + \frac{6}{7})$$

$$\text{解：} 3\frac{1}{6} - (\frac{1}{6} + \frac{6}{7}) = 3\frac{1}{6} - \frac{1}{6} - \frac{6}{7} = 3 - \frac{6}{7} = 2\frac{1}{7}$$

$$\text{例4 } 10\frac{1}{9} - (0.25 + \frac{1}{3}) - (5 - \frac{7}{12})$$

$$\text{解：} 10\frac{1}{9} - (0.25 + \frac{1}{3}) - (5 - \frac{7}{12})$$

$$= 10\frac{1}{9} - \frac{7}{12} - 4\frac{5}{12}$$

$$= 10\frac{1}{9} - (\frac{7}{12} + 4\frac{5}{12})$$

$$= 10\frac{1}{9} - 5 = 5\frac{1}{9}$$

【练习】

1. 看横式直接写出得数。

$$(1) \frac{1}{9} + \frac{7}{9} =$$

$$(2) \frac{3}{5} - \frac{1}{5} =$$

$$(3) 3\frac{3}{4} + 2\frac{1}{4} =$$

$$(4) 10 + \frac{2}{5} =$$

$$(5) 6\frac{4}{7} - 2\frac{3}{7} =$$

$$(6) 2\frac{2}{5} + \frac{1}{5} =$$

$$(7) \frac{3}{14} + \frac{5}{14} + \frac{1}{14} =$$

$$(8) \frac{16}{17} - \frac{5}{17} - \frac{3}{17} =$$

$$(9) 1 - \frac{1}{9} =$$

$$(10) \frac{7}{13} + \frac{6}{13} =$$

$$(11) \frac{1}{4} + \frac{1}{4} =$$

$$(12) \frac{3}{5} + \frac{1}{5} - \frac{2}{5} =$$

$$(13) \frac{9}{11} - \frac{7}{11} + \frac{1}{11} =$$

$$(14) \frac{3}{8} + \frac{5}{8} =$$

$$(15) \frac{9}{10} - \frac{3}{10} =$$

$$(16) \frac{7}{15} - \frac{6}{15} =$$

$$(17) \frac{15}{18} - \frac{13}{18} =$$

$$(18) 9 - \frac{8}{9} =$$

$$(19) 4\frac{2}{3} + 1\frac{1}{3} =$$

$$(20) 2\frac{1}{6} + 3\frac{1}{6} =$$

$$(21) \frac{1}{4} + \frac{1}{8} =$$

$$(22) 0.5 + 1\frac{1}{2} =$$

$$(23) 0.25 + 1\frac{1}{4} =$$

$$(24) 8.25 - 1\frac{1}{4} =$$

$$(25) \frac{1}{5} + \frac{3}{10} =$$

$$(26) 1 - 0.75 + \frac{1}{4} =$$

$$(27) 2\frac{5}{6} - \frac{1}{2} =$$

$$(28) 8\frac{1}{2} - 2\frac{2}{5} =$$

2. 在下面 内填上适当的数，在 填上适当的运算符号。

$$(1) 1 - \frac{7}{17} - \frac{9}{17} = 1 - (\quad + \quad)$$

$$(2) 4\frac{5}{13} - \frac{11}{12} - \frac{1}{12} = 4\frac{5}{13} - (\frac{11}{12} \quad \frac{1}{12})$$

$$(3) 6\frac{5}{18} - \frac{7}{11} - \frac{4}{11} = 6\frac{5}{18} \quad (\quad)$$

$$(4) 2\frac{1}{5} - (\frac{1}{5} + \frac{2}{9}) = 2\frac{1}{5} - \quad -$$

$$(5) 3\frac{3}{10} - (\frac{3}{10} + \frac{8}{13}) = 3\frac{3}{10} \quad \frac{3}{10} \quad \frac{8}{13}$$

$$(6) 9\frac{2}{21} - (\frac{2}{21} + \frac{5}{8}) = 9\frac{2}{21}$$

$$(7) 7\frac{13}{18} - (\frac{1}{4} + \frac{1}{5}) - (3 - \frac{9}{20}) = 7\frac{13}{18} - \quad - \quad = 7\frac{13}{18} - (\quad)$$

$$(8) 5 - (\frac{3}{4} - \frac{1}{2}) - (\frac{5}{8} + \frac{1}{8})$$

$$= 5 - \quad - \quad = 5 \quad (\quad)$$

3. 速算。

$$(1) 40\frac{1}{2} - 16\frac{5}{13} - 13\frac{8}{13}$$

$$(2) 9\frac{7}{8} - (9\frac{7}{8} + \frac{22}{23})$$

$$(3) 8\frac{7}{15} - 1\frac{7}{9} - 2\frac{2}{9}$$

$$(4) 17\frac{6}{25} - (2\frac{6}{25} + 6\frac{2}{3})$$

$$(5) 10\frac{3}{7} - 3\frac{5}{12} - 1\frac{7}{12}$$

$$(6) 4\frac{7}{11} - (\frac{7}{11} + \frac{40}{43})$$

$$(7) 16\frac{5}{7} - 4\frac{21}{23} - 5\frac{2}{23}$$

$$(8) 19\frac{11}{18} - (9\frac{11}{18} + 1\frac{1}{3})$$

$$(9) 15\frac{3}{7} - 6\frac{19}{31} - 8\frac{12}{31}$$

$$(10) 6\frac{5}{9} - (1\frac{5}{9} + 4\frac{4}{5})$$

$$(11) 45\frac{2}{3} - 4\frac{19}{73} - 5\frac{54}{73}$$

$$(12) 17\frac{7}{8} - (3\frac{7}{8} + 5\frac{3}{4})$$

4. 速算。

$$(1) 8\frac{4}{7} - (\frac{1}{2} + \frac{1}{3}) - (3 - 2\frac{5}{6})$$

$$(2) 9.6 - (\frac{7}{8} - \frac{5}{8}) - (2 + 1\frac{3}{4})$$

$$(3) 10\frac{2}{3} - (6 + \frac{3}{4}) - (2 + \frac{1}{4})$$

$$(4) 7\frac{9}{100} - (2 - \frac{13}{24}) - (3\frac{1}{24} + \frac{1}{2})$$

$$(5) 101\frac{8}{9} - (50 - \frac{3}{7}) - (29\frac{5}{14} + 11\frac{1}{14})$$

$$(6) 12\frac{2}{5} + [3\frac{7}{18} - (2\frac{7}{18} + \frac{2}{5})] - 1$$

$$(7) 3\frac{1}{4} - [2\frac{2}{3} - (1\frac{2}{3} + \frac{3}{4})] + (1 - \frac{7}{8})$$

$$(8) 0.75 + [15\frac{15}{19} - (\frac{15}{19} + 4\frac{3}{4})] - \frac{1}{3}$$

5. 下面各题对吗？不对，指出错误的地方并改正过来。

$$(1) 10\frac{3}{8} - 6\frac{5}{11} - 3\frac{6}{11}$$

$$= 10\frac{3}{8} - (6\frac{5}{11} + 3\frac{6}{11})$$

$$= 10\frac{3}{8} - 9 = 1\frac{3}{8}$$

$$(2) 3\frac{3}{4} - (2\frac{3}{4} + \frac{2}{5})$$

$$= 3\frac{3}{4} - 2\frac{3}{4} + \frac{2}{5}$$

$$= 1 + \frac{2}{5} = 1\frac{2}{5}$$

$$(3) 5\frac{7}{8} - (2\frac{7}{8} + 2\frac{1}{7})$$

$$= 5\frac{7}{8} - 2\frac{7}{8} - 2\frac{1}{7}$$

$$= 3 - 2\frac{1}{7} = 1\frac{1}{7}$$

$$(4) 9\frac{1}{6} - 4\frac{1}{3} - 3\frac{2}{3}$$

$$= 9\frac{1}{6} - (4\frac{1}{3} + 3\frac{2}{3})$$

$$= 9\frac{1}{6} - 8 = 1\frac{1}{6}$$

6. 看谁算得又对又快。

$$(1) 3\frac{4}{9} - \frac{5}{16} - 1\frac{11}{16}$$

$$(2) 10\frac{2}{3} - \frac{1}{8} - 7\frac{7}{8}$$

$$(3) 11\frac{8}{27} - (\frac{8}{27} + 1\frac{3}{10})$$

$$(4) 6\frac{4}{5} - (3\frac{4}{5} + 2\frac{5}{6})$$

$$(5) 7\frac{12}{25} - \frac{1}{9} - 5\frac{8}{9}$$

$$(6) 8\frac{3}{4} - (1\frac{3}{4} + \frac{2}{5})$$

$$(7) 6\frac{9}{10} - (4\frac{9}{10} + 1\frac{2}{3}) \quad (8) 15\frac{1}{12} - 2\frac{5}{7} - 2\frac{2}{7}$$

$$(9) 6\frac{5}{7} - (5\frac{5}{7} + 0.75) \quad (10) 5\frac{3}{10} - \frac{7}{13} - \frac{6}{13}$$

$$(11) 9\frac{3}{5} - \frac{7}{16} - 1\frac{9}{16}$$

$$(12) 11\frac{11}{36} - (1\frac{11}{36} + 9\frac{9}{14})$$

$$(13) 4\frac{9}{20} - (\frac{1}{4} + \frac{1}{6}) - (1 - \frac{5}{12})$$

$$(14) 9\frac{9}{10} - (4 - \frac{6}{35}) - (\frac{1}{35} + \frac{1}{7})$$

$$(15) 5\frac{2}{3} + [10\frac{3}{8} - (7\frac{3}{8} + 2\frac{2}{3})] - \frac{1}{4}$$

$$(16) 5\frac{1}{2} + [112\frac{4}{7} - (12\frac{4}{7} + 35\frac{1}{2})] - (1 - \frac{8}{9})$$

*7. 速算。

$$(1) \frac{1}{2} + \frac{1}{3} \quad (2) \frac{1}{3} + \frac{1}{5}$$

$$(3) \frac{1}{6} + \frac{1}{9} \quad (4) \frac{1}{2} - \frac{1}{3}$$

$$(5) \frac{1}{3} - \frac{1}{5} \quad (6) \frac{1}{6} - \frac{1}{9}$$

$$(7) 1 - \frac{5}{6} + \frac{7}{12} - \frac{9}{20} \quad (8) \frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \frac{1}{42}$$

2. 乘除法

【例题】

例1 看横式直接写出得数。

$$(1) \frac{5}{9} \times \frac{3}{5} \quad (2) 1 \div \frac{1}{8}$$

$$(3) \frac{2}{3} \div 1\frac{1}{2} \quad (4) 2\frac{1}{8} \times 8 \div \frac{17}{19}$$

$$\text{解：} (1) \frac{5}{9} \times \frac{3}{5} = \frac{1}{3} \quad (2) 1 \div \frac{1}{8} = 8$$

$$(3) \frac{2}{3} \div 1\frac{1}{2} = \frac{4}{9} \quad (4) 2\frac{1}{8} \times 8 \div \frac{17}{19} = 19$$

$$\text{例2} \quad 1 \div \frac{1}{2} \div \frac{2}{3} \div \frac{3}{4} \div \frac{4}{5} \div \frac{5}{6} \div \frac{6}{7} \div \frac{7}{8}$$

$$\begin{aligned} \text{解: } & 1 \div \frac{1}{2} \div \frac{2}{3} \div \frac{3}{4} \div \frac{4}{5} \div \frac{5}{6} \div \frac{6}{7} \div \frac{7}{8} \\ & = 1 \times \frac{\frac{2}{1}}{\frac{1}{1}} \times \frac{\frac{3}{2}}{\frac{1}{1}} \times \frac{\frac{4}{3}}{\frac{1}{1}} \times \frac{\frac{5}{4}}{\frac{1}{1}} \times \frac{\frac{6}{5}}{\frac{1}{1}} \times \frac{\frac{7}{6}}{\frac{1}{1}} \times \frac{\frac{8}{7}}{\frac{1}{1}} \\ & = 8 \end{aligned}$$

$$\text{例3 } 5.2 \times 1\frac{1}{4}$$

$$\begin{aligned} \text{解: } & 5.2 \times 1\frac{1}{4} \\ & = \overset{1.3}{5.2} \times \frac{5}{4} \\ & = 6.5 \end{aligned}$$

$$\text{例4 } 3\frac{1}{2} \times 2\frac{4}{15}$$

$$\begin{aligned} \text{解: } & 3\frac{1}{2} \times 2\frac{4}{15} \\ & = (3\frac{1}{2} \times 2) \times (2\frac{4}{15} \div 2) \\ & = 7 \times 1\frac{2}{15} = 7\frac{14}{15} \end{aligned}$$

$$\text{例5 } 12\frac{8}{9} \div \frac{4}{5} \div 3\frac{2}{9}$$

$$\begin{aligned} \text{解: } & 12\frac{8}{9} \div \frac{4}{5} \div 3\frac{2}{9} \\ & = 12\frac{8}{9} \div 3\frac{2}{9} \div \frac{4}{5} \\ & = 4 \div \frac{4}{5} = 5 \end{aligned}$$

【练习】

8. 看横式直接写出得数。

$$(1) \frac{3}{11} \times 3 = \quad (2) \frac{4}{7} \times \frac{3}{4} =$$

$$(3) 40 \times \frac{7}{8} = \quad (4) \frac{4}{5} \times 1 =$$

$$(5) 0 \times \frac{3}{8} = \quad (6) \frac{1}{6} \times \frac{1}{6} =$$

$$(7) 1\frac{1}{7} \times 5 = \quad (8) 4 \times 1\frac{3}{4} =$$

$$(9) 1\frac{1}{2} \times 1\frac{1}{2} = \quad (10) 4\frac{3}{5} \times 0 =$$

$$(11) 1 \times 9\frac{3}{4} = \quad (12) 10 \times 1\frac{7}{10} =$$

$$(13) \frac{6}{7} \times \frac{1}{3} = \quad (14) \frac{3}{5} \div 4 =$$

$$(15) \frac{3}{4} \div 3 = \quad (16) \frac{5}{7} \div 1 =$$

$$(17) 0 \div \frac{3}{4} = \quad (18) 1 \div \frac{3}{7} =$$

$$(19) \frac{4}{5} \div \frac{2}{5} = \quad (20) 1\frac{3}{8} \div 1 =$$

$$(21) 0 \div 2\frac{3}{4} = \quad (22) \frac{5}{6} \times \frac{3}{4} \times \frac{8}{15} =$$

$$(23) \frac{3}{4} \times \frac{1}{2} \times \frac{3}{5} = \quad (24) \frac{5}{12} \div \frac{1}{3} =$$

$$(25) 4 \div \frac{1}{4} = \quad (26) 1\frac{5}{8} \div 1\frac{5}{8} =$$

$$(27) 0.25 \times \frac{5}{7} \times 4 = \quad (28) 100 \times 0.1\% =$$

$$(29) \frac{2}{13} \times \frac{5}{8} \div \frac{2}{13} = \quad (30) 1 \div 9 \div \frac{1}{9} =$$

$$(31) \frac{1}{3} \times \frac{1}{3} \div \frac{1}{3} \times \frac{1}{3} \quad (32) 3\frac{1}{4} \times 4 \div \frac{13}{15} =$$

9. 在下面 内填上适当的数, 在 填上适当的运算符号。

$$(1) 6 \div \frac{6}{7} \div \frac{7}{8} \div \frac{8}{9} \div \frac{9}{10} = 6 \quad \frac{7}{6} \quad \frac{8}{7} \quad \frac{9}{8} \quad \frac{10}{9}$$

$$(2) 2 \div \frac{2}{3} \div \frac{3}{4} \div \frac{4}{5} \div \frac{5}{6} = 2 \times$$

$$(3) 4.8 \times 1\frac{3}{4} = 4.8 \times$$

$$(4) 9.6 \times 1\frac{2}{3} = \quad \times$$

$$(5) 4\frac{1}{2} \times 2\frac{6}{43} = (4\frac{1}{2} \quad 2) \times (2\frac{6}{43} \quad 2)$$

$$(6) 2\frac{1}{3} \times 3\frac{6}{17} = (2\frac{1}{3} \times 3) \times (3\frac{6}{17} \quad)$$

$$(7) 2\frac{1}{4} \times 4\frac{8}{19} = (2\frac{1}{4} \quad 4) \times (4\frac{8}{19} \quad)$$

$$(8) 14\frac{6}{11} \div \frac{2}{3} \div 7\frac{3}{11} = 14\frac{6}{11} \div \quad \div$$

10. 计算下列各题。

$$(1) 3 \div \frac{3}{4} \div \frac{4}{5} \div \frac{5}{6} \div \frac{6}{7} \div \frac{7}{8} \div \frac{8}{9} \div \frac{9}{10}$$

$$(2) 10 \div \frac{10}{11} \div \frac{11}{12} \div \frac{12}{13} \div \frac{13}{14} \div \frac{14}{15} \div \frac{15}{16}$$

$$(3) 21 \div \frac{21}{22} \div \frac{22}{23} \div \frac{23}{24} \div \frac{24}{25} \div \frac{25}{26} \div \frac{26}{27}$$

$$(4) 101 \div \frac{101}{102} \div \frac{102}{103} \div \frac{103}{104} \div \frac{104}{105} \div \frac{105}{106}$$

$$(5) 193 \div \frac{193}{194} \div \frac{194}{195} \div \frac{195}{196} \div \frac{196}{197} \div \frac{197}{198}$$

$$(6) 1989 \div \frac{1989}{1990} \div \frac{1990}{1991} \div \frac{1991}{1992} \div \frac{1992}{1993} \div \frac{1993}{1994}$$

11. 计算下列各题。

$$(1) 2.4 \times 1\frac{5}{6} \quad (2) 3.6 \times 2\frac{2}{3}$$

$$(3) 16.8 \times 3\frac{3}{4} \quad (4) 5.88 \times 1\frac{1}{2}$$

$$(5) 0.77 \times 7\frac{1}{11} \quad (6) 4.2 \times 2\frac{1}{3}$$

$$(7) 6.5 \times 1\frac{4}{5} \quad (8) 0.88 \times 1\frac{3}{8}$$

12. 计算下列各题。

$$(1) 3\frac{1}{2} \times 2\frac{2}{11} \quad (2) 4\frac{2}{3} \times 3\frac{3}{7}$$

$$(3) 8\frac{4}{5} \times 2\frac{1}{2} \quad (4) 9\frac{3}{8} \times 2\frac{1}{3}$$

$$(5) 3\frac{1}{2} \times 6\frac{2}{9} \quad (6) 1\frac{10}{11} \times 22\frac{11}{33}$$

$$(7) 4\frac{1}{2} \times 8\frac{4}{25} \quad (8) 2\frac{5}{6} \times 12\frac{6}{47}$$

$$(9) 9\frac{4}{5} \times 10\frac{5}{39} \quad (10) 3\frac{3}{4} \times 8\frac{8}{13}$$

13. 计算下列各题。

$$(1) 2\frac{2}{3} \div \frac{1}{11} \div 1\frac{1}{3} \quad (2) 8\frac{6}{17} \div \frac{2}{3} \div 4\frac{3}{17}$$

$$(3) 3\frac{9}{14} \div \frac{3}{5} \div 1\frac{3}{14} \quad (4) 4\frac{4}{5} \div \frac{2}{19} \div 2\frac{2}{5}$$

$$(5) 24\frac{8}{9} \div \frac{4}{15} \div 6\frac{2}{9} \quad (6) 5\frac{5}{6} \div \frac{5}{7} \div 1\frac{1}{6}$$

$$(7) 33\frac{11}{21} \div \frac{11}{18} \div 3\frac{1}{21} \quad (8) 42\frac{12}{25} \div \frac{6}{31} \div 7\frac{2}{25}$$

14. 下面各题对吗？不对，找出错误的地方并改正过来。

$$(1) 6\frac{1}{2} \times 2\frac{4}{9}$$

$$= (6\frac{1}{2} \times 2) \times (2\frac{4}{9} \times 2)$$

$$= 13 \times 4\frac{8}{9} = 63\frac{5}{9}$$

$$(2) 18\frac{4}{5} \div \frac{3}{7} \div 9\frac{2}{5}$$

$$= 18\frac{4}{5} \div 9\frac{2}{5} \div \frac{3}{7}$$

$$= 2 \div \frac{3}{7} = \frac{6}{7}$$

$$(3) 5.6 \times 1\frac{3}{8}$$

$$= 5.6 \times \frac{3}{8}$$

$$= 2.1$$

$$(4) \frac{10}{11} \div \frac{11}{12} \div \frac{12}{13} \div \frac{13}{14} \div \frac{14}{15}$$

$$= \frac{10}{11} \times \frac{12}{11} \times \frac{13}{12} \times \frac{14}{13} \times \frac{15}{14}$$

$$= \frac{10}{11} \times \frac{15}{11} = 1\frac{29}{121}$$

15. 看谁算得又对又快。

$$(1) \frac{1}{2} \div \frac{2}{3} \div \frac{3}{4} \div \frac{4}{5} \div \frac{5}{6} \div \frac{6}{7} \div \frac{7}{8}$$

$$(2) 24 \div \frac{24}{25} \div \frac{25}{26} \div \frac{26}{27} \div \frac{27}{28} \div \frac{28}{29} \div \frac{29}{30}$$

$$(3) 7.2 \div 1\frac{1}{6}$$

$$(4) 5\frac{1}{2} \times 4\frac{2}{3}$$

$$(5) 26\frac{6}{7} \div \frac{2}{9} \div 13\frac{3}{7}$$

$$(6) 6.4 \times 2\frac{5}{8}$$

$$(7) 3\frac{3}{4} \times 16\frac{4}{19}$$

$$(8) 48\frac{8}{15} \div \frac{4}{11} \div 12\frac{2}{15}$$

$$(9) 36\frac{9}{17} \div \frac{3}{14} \div 12\frac{3}{17}$$

$$(10) 3.9 \times 1\frac{2}{13}$$

$$(11) 3\frac{2}{5} \times 10\frac{5}{23}$$

$$(12) 20.6 \times 1\frac{1}{2}$$

$$(13) 28\frac{10}{11} \div \frac{4}{13} \div 14\frac{5}{11}$$

$$(14) 1\frac{1}{9} \times 9\frac{9}{14}$$

$$(15) 5.25 \times 1\frac{3}{5}$$

$$(16) 12\frac{24}{31} \div \frac{6}{25} \div 2\frac{4}{31}$$

*16. 速算。

$$(1) 3\frac{3}{5} \times 2\frac{2}{9} \div 1\frac{1}{5}$$

$$(2) 4\frac{1}{18} \times (3 \div 12\frac{1}{6})$$

$$(3) 5\frac{2}{13} \div (5\frac{2}{13} \times 7)$$

$$(4) \frac{3}{8} \div (\frac{5}{6} \div 2\frac{2}{3})$$

$$(5) 6\frac{3}{4} \div \frac{5}{9} \div 1\frac{4}{5}$$

$$(6) 2\frac{2}{5} \div (2 \div 1\frac{1}{6})$$

$$(7) 15\frac{9}{14} \times 4\frac{2}{11} \div 15\frac{3}{4}$$

$$(8) 13\frac{8}{25} \div (13\frac{8}{25} \times 9)$$

$$(9) 2\frac{1}{12} \times (3 \div 6\frac{1}{4})$$

$$(10) \frac{5}{12} \div (\frac{1}{7} \div 2\frac{2}{5})$$

$$(11) 32\frac{24}{37} \times 1\frac{1}{5} \div 4\frac{3}{37}$$

$$(12) 14\frac{5}{9} \div (14\frac{5}{9} \times \frac{1}{29})$$

3. 四则混合运算

【例题】

例1 看横式直接写出得数。

$$(1) 5 \times \frac{4}{5} - \frac{4}{5} \div 4$$

$$(2) 3\frac{7}{10} \times (3\frac{7}{10} - 3\frac{7}{10}) \div 7\frac{2}{5}$$

$$(3) (2\frac{1}{3} + 2\frac{1}{3}) \times (2\frac{1}{3} \div 2\frac{1}{3})$$

解：(1) $5 \times \frac{4}{5} - \frac{4}{5} \div 4 = 3\frac{4}{5}$

$$(2) 3\frac{7}{10} \times (3\frac{7}{10} - 3\frac{7}{10}) \div 7\frac{2}{5} = 0$$

$$(3) (2\frac{1}{3} + 2\frac{1}{3}) \times (2\frac{1}{3} \div 2\frac{1}{3}) = 4\frac{2}{3}$$

例2 $4\frac{3}{8} \times (1\frac{5}{8} - 1.625) + (1 - \frac{3}{5})$

解： $4\frac{3}{8} \times (1\frac{5}{8} - 1.625) + (1 - \frac{3}{5})$

$$= 4\frac{3}{8} \times 0 + \frac{2}{5}$$

$$= 0 + \frac{2}{5} = \frac{2}{5}$$

例3 $\frac{5}{8} \times \frac{4}{5} + 2\frac{2}{3} \div 1\frac{1}{3}$

$$\text{解：} \frac{5}{8} \times \frac{4}{5} + 2\frac{2}{3} \div 1\frac{1}{3}$$

$$= \frac{\overset{1}{\cancel{5}}}{\underset{2}{8}} \times \frac{\overset{1}{\cancel{4}}}{\underset{1}{5}} + \frac{\overset{1}{\cancel{8}}}{\underset{1}{3}} \times \frac{\overset{1}{\cancel{3}}}{\underset{1}{4}}$$

$$= \frac{1}{2} + 2 = 2\frac{1}{2}$$

$$\text{例4 } 3.2 \div 1\frac{3}{5} - \frac{3}{5} \times 0.75$$

$$\text{解：} 3.2 \div 1\frac{3}{5} - \frac{3}{5} \times 0.75$$

$$= \overset{0.4}{\cancel{3.2}} \times \frac{\overset{5}{\cancel{5}}}{\underset{1}{8}} - \frac{\overset{3}{\cancel{3}}}{\underset{1}{5}} \times \overset{0.15}{\cancel{0.75}}$$

$$= 2 - 0.45 = 1.55$$

【练习】

17. 看横式直接写出得数。

$$(1) \frac{3}{4} \times \frac{2}{3} - (\frac{1}{4} + \frac{1}{4}) =$$

$$(2) \frac{1}{7} \times 8 \div \frac{1}{7} \times (9-1) =$$

$$(3) 3\frac{2}{5} \times \frac{5}{17} - \frac{1}{4} + 1\frac{1}{4} =$$

$$(4) (\frac{3}{5} - \frac{2}{5}) \times \frac{1}{2} \div \frac{1}{10} =$$

$$(5) (1 - \frac{7}{8}) \times \frac{2}{7} \times 8 \div \frac{1}{10} =$$

$$(6) (\frac{1}{6} + 0.875) \times (1\frac{1}{3} - 1\frac{1}{3}) =$$

$$(7) \frac{1}{2} \times \frac{1}{3} + 0 \div 1\frac{7}{8} =$$

$$(8) 6\frac{3}{5} - 6\frac{3}{5} \times (6\frac{3}{5} - \frac{6}{35}) =$$

$$(9) \frac{5}{7} \times 1\frac{2}{5} - \frac{3}{8} \div \frac{3}{8}$$

$$(10) 1 \div (25\frac{1}{3} \div 25\frac{1}{3}) + 1 =$$

$$(11) (\frac{2}{7} + \frac{3}{7} - \frac{4}{7}) \times \frac{3}{5} =$$

$$(12) 1 \div \frac{1}{7} - \frac{1}{7} \times 3 \times 0 =$$

$$(13) \frac{1}{3} \times \frac{1}{3} + \frac{1}{3} \div \frac{1}{3} =$$

$$(14) (2\frac{2}{3} + 1\frac{1}{3}) \times (1\frac{3}{4} - 1\frac{1}{4}) =$$

$$(15) (4\frac{3}{7} - \frac{3}{7}) \times \frac{1}{4} + \frac{1}{5}$$

$$(16) (0.25 - \frac{1}{2} \times 0.5) \div 9\frac{7}{8}$$

$$(17) (\frac{4}{5} \times \frac{3}{4} - \frac{3}{5}) + \frac{1}{35} =$$

$$(18) \frac{7}{9} \times 5 \div \frac{7}{9} - 1 =$$

$$(19) 1\frac{1}{5} + 3\frac{4}{5} \div 3\frac{4}{5} - 1\frac{1}{5} =$$

$$(20) (4 \div \frac{4}{7} + \frac{4}{7}) \times 1 =$$

$$(21) (2\frac{2}{3} + \frac{2}{3}) \times (1\frac{4}{5} - 1\frac{1}{5}) =$$

$$(22) \frac{2}{3} \times \frac{9}{10} \div \frac{3}{5} - \frac{1}{5} =$$

$$(23) 6\frac{5}{8} \times (1 - \frac{3}{8} \div \frac{3}{8}) =$$

$$(24) (1 - \frac{5}{9} \times \frac{9}{10}) \div \frac{1}{2} =$$

$$(25) (1\frac{1}{2} - 1\frac{1}{4} \times \frac{2}{5}) + 1\frac{1}{2} =$$

$$(26) 1 - \frac{7}{12} \div 7 \times 1\frac{5}{7} =$$

$$(27) \frac{4}{5} + 2\frac{1}{6} \times (8\frac{1}{3} - 8\frac{1}{3}) =$$

$$(28) 3 \times \frac{2}{3} - \frac{2}{3} \div 2 =$$

18. 计算下列各题。

$$(1) 4\frac{2}{3} - 92\frac{3}{4} \times (0.25 - \frac{1}{2} \times 0.5)$$

$$(2) 1\frac{3}{5} - 0.176 \times (0.5 - 15 \times \frac{1}{3})$$

$$(3) [1 - 7\frac{2}{3} \div 7\frac{2}{3}] \times 1\frac{1}{4} + 5$$

$$(4) 18\frac{1}{4} \times (11\frac{4}{5} - 11\frac{4}{5}) \times 16\frac{1}{4} + 11\frac{6}{7}$$

$$(5) [(\frac{3}{4} - 0.5) + \frac{1}{4} \times 375\%] \times (3.6 - 3\frac{3}{5})$$

$$(6) (1.25 - 1\frac{1}{4}) \div [(2\frac{3}{8} - 1\frac{5}{9}) \times 4\frac{3}{5} \times 2\frac{5}{16}]$$

$$(7) [12\frac{3}{4} + (5\frac{1}{2} \div 3\frac{2}{4} - 1\frac{3}{7})] \times (5\frac{1}{4} - 5.25)$$

$$(8) 1 - [1 - (1 - \frac{2}{3} \div \frac{2}{3})] \times \frac{3}{4} + 5$$

$$(9) [(8.6 - 8\frac{3}{5}) \times \frac{5}{8}] \div \frac{3}{8} + \frac{1}{3} \div 1\frac{5}{6}$$

$$(10) [\frac{1}{8} \div \frac{1}{8} + (\frac{2}{5} - \frac{2}{5}) \div \frac{5}{9}] \times 1\frac{1}{3}$$

$$(11) [4\frac{1}{4} - 4\frac{1}{4} \times (4.75 - 3\frac{3}{4})] \times (\frac{1}{2} + \frac{1}{3})$$

$$(12) [13\frac{2}{3} + (1\frac{5}{6} - 1\frac{5}{6}) \times \frac{18}{25}] \div 13\frac{2}{3}$$

19. 计算下列各题。

$$(1) \frac{5}{9} \times \frac{3}{5} + \frac{7}{12} \div 1\frac{3}{4}$$

$$(2) \frac{9}{10} \div 12 - \frac{11}{50} \times \frac{5}{44}$$

$$(3) \frac{1}{7} \div \frac{3}{7} + \frac{3}{16} \times 3\frac{5}{9}$$

$$(4) 1\frac{1}{3} \times 2\frac{1}{4} + 2\frac{1}{5} \div 1\frac{5}{6}$$

$$(5) 3\frac{1}{2} \div 1\frac{2}{5} + 6\frac{1}{2} \times \frac{5}{13}$$

$$(6) 1\frac{1}{5} \times \frac{5}{36} - \frac{7}{32} \div 1\frac{3}{4}$$

$$(7) 3\frac{1}{5} \times \frac{5}{16} + 4\frac{8}{15} \div 3\frac{2}{5}$$

$$(8) \frac{6}{25} \times \frac{5}{6} + \frac{3}{5} \div 1\frac{4}{5}$$

$$(9) 6\frac{4}{5} \times \frac{10}{17} - 8\frac{4}{5} \div 11$$

$$(10) 8\frac{1}{4} \times \frac{10}{11} + 3\frac{1}{3} \div 2\frac{2}{9}$$

$$(11) 2\frac{1}{15} \times \frac{15}{62} + 4\frac{4}{5} \div \frac{12}{25}$$

$$(12) 1\frac{1}{6} \times 2\frac{2}{3} + 1\frac{2}{3} \div \frac{3}{4}$$

20. 计算下列各题。

$$(1) 2.4 \div 1\frac{1}{5} - 1.6 \times \frac{1}{4}$$

$$(2) 2.5 \times \frac{2}{5} - 0.21 \div \frac{1}{3}$$

$$(3) 2.4 \div \frac{6}{17} + 1\frac{3}{8} \times \frac{6}{11}$$

$$(4) 3.5 \div 1\frac{2}{5} - 0.45 \times \frac{8}{9}$$

$$(5) 5\frac{3}{5} \times 2\frac{1}{7} - 1.2 \times 1\frac{1}{3}$$

$$(6) 4.5 \times 1\frac{3}{5} - 0.75 \div \frac{3}{4}$$

$$(7) 2.59 \times 1\frac{1}{7} + 1\frac{1}{8} \div 2\frac{1}{4}$$

$$(8) 3.6 \times \frac{5}{8} + 3.3 \div 1\frac{5}{6}$$

$$(9) 0.16 \div \frac{4}{25} - 0.15 \times \frac{2}{3}$$

$$(10) 5.55 \times 1\frac{1}{5} - 2.4 \div \frac{2}{5}$$

$$(11) 8.4 \div 8\frac{2}{5} + 0.4 \times 1\frac{1}{4}$$

$$(12) 2.31 \times \frac{4}{7} + 5.4 \div 1\frac{2}{7}$$

21. 看谁算得又对又快。

$$(1) 5 \times 0.106 - \frac{3}{8} \times 1\frac{5}{16} \times \frac{3}{13} \times 0 + 7\%$$

$$(2) [1.9 + 25\frac{39}{50} \times (1.75 - 1\frac{3}{4})] \div \frac{19}{50}$$

$$(3) 3 - [\frac{1}{8} \div \frac{1}{8} + (\frac{2}{5} - \frac{1}{10} \div \frac{1}{4}) \div \frac{5}{9}] \times 1\frac{1}{3}$$

$$(4) (1 - 3\frac{1}{5} \times \frac{5}{16}) \div (6\frac{1}{12} - 4\frac{8}{15} \div 3\frac{2}{5})$$

$$(5) [1\frac{3}{8} + (3.15 - 3\frac{3}{20}) \div 4.58] \times (2 - 1\frac{3}{11})$$

$$(6) [1.9 + 190\% \times (4\frac{4}{5} - 3\frac{4}{5})] \div (2\frac{9}{10} - 1\frac{9}{10})$$

$$(7) 3\frac{3}{4} \div 10 + 1\frac{3}{8} \times \frac{8}{11}$$

$$(8) 1\frac{4}{5} \times \frac{2}{3} + 2 \div 1\frac{1}{9}$$

$$(9) 1\frac{2}{3} \times \frac{3}{5} + 2\frac{4}{9} \div \frac{2}{3}$$

$$(10) 2\frac{1}{7} \div \frac{3}{14} - \frac{1}{3} \times 5.4$$

$$(11) \frac{7}{33} \times 2\frac{5}{14} - 9.6 \div 3\frac{1}{5}$$

$$(12) 1.6 \div \frac{3}{25} - \frac{2}{5} \times 1.25$$

$$(13) 2.8 \times 2\frac{1}{7} - 9.6 \div 3\frac{1}{5}$$

$$(14) 1\frac{8}{13} \times \frac{13}{42} + 5\frac{5}{7} \div \frac{8}{21}$$

$$(15) 3\frac{2}{3} \times 3 - 5\frac{5}{12} \div 2\frac{1}{6}$$

$$(16) 8.4 \times 1\frac{2}{3} - 3.5 \div \frac{7}{10}$$

$$(17) 4.6 \times 2\frac{1}{2} + 2.4 \div 2\frac{2}{3}$$

$$(18) 0.65 \div 2\frac{1}{6} + 3.6 \div 1\frac{2}{3}$$

*22. 速算。

$$(1) (\frac{1}{2} - \frac{1}{3}) \times (\frac{1}{2} + \frac{1}{3}) \div (\frac{1}{6} - \frac{1}{9})$$

$$(2) 2.7 \div 1\frac{1}{8} + (\frac{7}{12} - \frac{9}{20}) \times 7\frac{1}{2}$$

$$(3) 1\frac{8}{13} \times \frac{13}{42} + 3\frac{9}{11} \times 1\frac{2}{3} \div 1\frac{3}{11}$$

$$(4) 17\frac{5}{8} \div (17\frac{5}{8} \times \frac{1}{31}) - 1\frac{4}{7}$$

$$(5) 8\frac{1}{2} - \frac{5}{9} \div \left(\frac{2}{17} \div 1\frac{4}{5}\right) + \frac{5}{6}$$

$$(6) 4\frac{1}{12} \times \left(24 \div 16\frac{1}{3}\right) - 5\frac{5}{6}$$

三、整数简算

1. 加减法简算

(1) 加法简算

【例题】

例 1 如果加数是接近整十、整百的数，把它们先看作整十、整百的数，计算比较简便。

$$(1) 115 + 89 \quad (2) 99 + 136 \quad (3) 176 + 98$$

$$\text{解：} (1) 115 + 89 = 115 + 90 - 1 = 204$$

$$(2) 99 + 136 = 100 + 136 - 1 = 235$$

$$(3) 176 + 98 = 176 + 100 - 2 = 274$$

例 2 如果加数是接近整百、整千的数，把它们先看作整百、整千的数，计算起来比较简便。

$$(1) 236 + 97 + 198 + 3996$$

$$(2) 3348 + 296 + 2995 + 102$$

$$(3) 325 + 1998 + 299 + 1004$$

$$\text{解：} (1) 236 + 97 + 198 + 3996$$

$$= 236 + 100 - 3 + 200 - 2 + 4000 - 4$$

$$= 236 + 100 + 200 + 4000 - 3 - 2 - 4$$

$$= 4527$$

$$(2) 3348 + 296 + 2995 + 102$$

$$= 3348 + 300 - 4 + 3000 - 5 + 100 + 2$$

$$= 3348 + 3000 + 300 - 4 - 5 + 100 + 2$$

$$= 6741$$

$$(3) 325 + 1998 + 299 + 1004$$

$$= 325 + 2000 - 2 + 300 - 1 + 1000 + 4$$

$$= 325 + 2000 + 1000 + 300 - 1 + 4 - 2$$

$$= 3626$$

例 3 几个数相加，利用加法交换律和结合律，将加数中能聚成“10”或“10”的倍数的一些加数交换顺序，先进行结合，然后再与其他的一些加数相加，计算出结果。

$$(1) 46 + 97 + 54$$

$$(2) 461 + 872 + 539 + 38$$

$$(3) 82 + 373 + 248 + 134 + 67 + 86$$

$$\text{解：} (1) 46 + 97 + 54$$

$$= 46 + 54 + 97$$

$$= 100 + 97$$

$$= 197$$

$$(2) 461 + 862 + 539 + 38$$

$$= 461 + 539 + 862 + 38$$

$$= 1000 + 900$$

$$= 1900$$

$$\begin{aligned}
&(3) 82 + 373 + 248 + 134 + 67 + 86 \\
&= 82 + 248 + 373 + 67 + 134 + 86 \\
&= 330 + 440 + 220 \\
&= 990
\end{aligned}$$

例 4 几个数相加，可以改变运算顺序，将相加得整十、整百、整千的数先结合相加，再与其他加数相加，得出结果。

$$(1) 123 + 569 + 877$$

$$(2) 468 + 329 + 532 + 171$$

$$(3) 153 + 278 + 47 + 634 + 726 + 522 + 366$$

$$\text{解：}(1) 123 + 569 + 877$$

$$= 569 + (123 + 877)$$

$$= 569 + 1000$$

$$= 1569$$

$$(2) 468 + 329 + 532 + 171$$

$$= (468 + 532) + (329 + 171)$$

$$= 1000 + 500$$

$$= 1500$$

$$(3) 153 + 278 + 47 + 634 + 726 + 522 + 366$$

$$= (153 + 47) + (278 + 522) + (634 + 366) + 726$$

$$= 200 + 800 + 1000 + 726$$

$$= 2726$$

例 5 两个数的和恰好凑成末尾带 0 的数，其中的一个数叫做另一个数的补数。

几个数中有互为补数的，根据加法的交换律、结合律可以交换加数的位置，结合先算。

$$(1) 97 + 65 \quad (2) 898 + 213$$

$$\text{解：}(1) 97 + 65 = 97 + 3 + 62 = 100 + 62 = 162$$

$$(2) 898 + 213 = 898 + 102 + 111 = 1000 + 111 = 1111$$

例 6 利用和的恒等变化。

$$1359 + 398 = 1359 + 398 + 2 - 2$$

$$= 1359 + 400 - 2$$

$$= 1759 - 2 = 1757$$

例 7 几个相近的数相加，可以选取其中适当的数做“标准数”，改为乘法计算。

$$(1) 32 + 29 + 27 + 30 + 28 + 31$$

$$(2) 354 + 329 + 371 + 346 + 350$$

$$(3) 168 + 71 + 67 + 372 + 69 + 70$$

$$\text{解：}(1) 32 + 29 + 27 + 30 + 28 + 31$$

$$= 30 + 2 + 30 - 1 + 30 - 3 + 30 + 30 - 2 + 30 + 1$$

$$= 30 \times 6 + 2 - 1 - 3 - 2 + 1$$

$$= 180 - 3 = 177 (\text{选取 } 30 \text{ 做标准数})$$

$$(2) 354 + 329 + 371 + 346 + 350$$

$$= 300 + 54 + 300 + 29 + 300 + 71 + 300 + 46 + 300$$

$$+ 50$$

$$\begin{aligned}
&=300 \times 5 + (54 + 46) + (29 + 71) + 50 \\
&=1500 + 100 + 100 + 50 \\
&=1750(\text{选取 } 300 \text{ 做标准数}) \\
(3) &168 + 71 + 67 + 372 + 69 + 70 \\
&=100 + 68 + 71 + 67 + 300 + 72 + 69 + 70 \\
&=100 + 300 + (68 + 71 + 67 + 72 + 69 + 70) \\
&=400 + (70 \times 6 - 2 + 1 - 3 + 2 - 1) \\
&=400 + (420 - 3)=400 + 417=817
\end{aligned}$$

【练习】

1. 填空.

$$\begin{aligned}
54 + 89 &= 54 + 90 \\
175 + 98 &= 175 + 100 \\
299 + 84 &= 300 \\
343 + 2002 &= 343 +
\end{aligned}$$

2. 用简便算法计算下面各题.

$$\begin{array}{ll}
(1) 73 + 98 & (2) 384 + 99 \\
(3) 89 + 197 & (4) 196 + 68 \\
(5) 195 + 35 & (6) 996 + 548 \\
(7) 1895 + 247 & (8) 3007 + 293
\end{array}$$

3. 用简便方法计算下面各题.

$$\begin{array}{l}
(1) 185 + 395 + 2096 \\
(2) 3023 + 98 + 279 \\
(3) 276 + 998 + 96 \\
(4) 4604 + 396 + 2798 \\
(5) 345 + 97 + 195 \\
(6) 6182 + 1097 + 2996 \\
(7) 758 + 204 + 396 \\
(8) 5000 + 2006 + 1994
\end{array}$$

4. 选择适当的简算方法计算下列各题.

$$\begin{array}{l}
(1) 48 + 67 + 52 \\
(2) 128 + 47 + 53 \\
(3) 75 + 69 + 25 + 31 \\
(4) 99 + 126 + 101 \\
(5) 167 + 178 + 133 + 222 \\
(6) 247 + 464 + 453 + 236 \\
(7) 543 + 364 + 157 + 146 \\
(8) 1528 + 457 + 272 + 543 \\
(9) 244 + 97 + 25 + 156 + 103 \\
(10) 1927 + 798 + 465 + 202 + 473 + 135^* \\
(11) 12 + 56 + 9 + 34 + 78 + 87 + 21 + 65 + 43^* \\
(12) 223 + 654 + 987 + 556 + 321 + 889^* \\
(13) 197 + 203 + 201 + 198 + 202 + 199 \\
^*(4) 123 + 234 + 345 + 456 + 567 + 678
\end{array}$$

(2) 减法简算

【例题】

例 1 如果减数是接近整十、整百的数，把它们先看作整十、整百的数，计算比较简便。

$$(1) 148 - 79 \quad (2) 155 - 97 \quad (3) 476 - 199$$

$$\text{解：} (1) 148 - 79 = 148 - 80 + 1 = 69$$

$$(2) 155 - 97 = 155 - 100 + 3 = 58$$

$$(3) 476 - 199 = 476 - 200 + 1 = 277$$

例 2 如果减数是接近整百、整千的数，把它们先看作整百、整千的数，计算起来比较简便。

$$3348 - 196 - 1995 - 103$$

$$= 3348 - 200 + 4 - 2000 + 5 - 100 - 3$$

$$= 3348 - 200 - 2000 - 100 + 4 + 5 - 3$$

$$= 1054$$

例 3 两个数相减，如果被减数与减数比较接近，可变更被减数或减数，使它们相减得整百、整十的数，然后再补充多减或少减的数。

$$(1) 764 - 576 \quad (2) 1285 - 737 - 436$$

$$\text{解：} (1) 764 - 576 = 764 - 564 - 12 = 200 - 12 = 188$$

$$(2) 1285 - 737 - 436 = 1285 - (737 + 436)$$

$$= 1285 - 1173$$

$$= 1273 - 1173 + 12 = 112$$

例 4 减法交换性质：在连减法里，交换任意两个减数的位置，差不变。

$$(1) 2869 - 258 - 369$$

$$(2) 492 - 123 - 87 - 92$$

$$\text{解：} (1) 2869 - 258 - 369$$

$$= 2869 - 369 - 258$$

$$= 2500 - 258$$

$$= 2242$$

$$(2) 492 - 123 - 87 - 92$$

$$= 492 - 92 - 87 - 123$$

$$= 400 - 87 - 123$$

$$= 313 - 123$$

$$= 190$$

例 5 从一个数中连续减去几个数等于从这个数中减去这几个减数的和。

$$(1) 613 - 57 - 43 \quad (2) 1300 - 120 - 368 - 512$$

$$(3) 10000 - 2345 - 1683 - 3024$$

$$\text{解：} (1) 613 - 57 - 43$$

$$= 613 - (57 + 43)$$

$$= 613 - 100$$

$$= 513$$

$$(2) 1300 - 120 - 368 - 512$$

$$= 1300 - (120 + 368 + 512)$$

$$=1300 - 1000$$

$$=300$$

(3) $10000 - 2345 - 1683 - 3024$

$$=10000 - (2345 + 1683 + 3024)$$

$$=10000 - 7052=2948$$

例 6 从一个数中减去几个数的和等于从这个数中连续减去这几个数.

(1) $526 - (126 + 300)$

(2) $4356 - (256 + 100 + 59)$

解：(1) $526 - (126 + 300)$

$$= 526 - 126 - 300$$

$$= 400 - 300$$

$$= 100$$

(2) $4356 - (256 + 100 + 59)$

$$= 4356 - (256 + 100) - 59$$

$$= 4356 - 356 - 59$$

$$= 4000 - 59$$

$$= 3941$$

【练习】

5. 用简便方法计算下面各题.

(1) $4327 - 299$	(2) $2654 - 1097$
(3) $1473 - 396$	(4) $4603 - 398$
(5) $445 - 97 - 295$	(6) $4182 - 1097 - 2996$
(7) $887 - 53 - 40 - 7$	(8) $1124 - 268 - 24 - 732$

6. 看谁算得又对又快.

(1) $473 - 157 - 183$	(2) $891 - 127 - 191 - 73$
(3) $587 - 279 - 7$	(4) $384 - 127 - 4 - 80$
(5) $783 - (183 + 246)$	(6) $986 - (386 + 175)$
(7) $1429 - (327 + 102 + 500)$	
(8) $40000 - 7334 - 23571 - 3945$	

(3) 加减混合运算简算

【例题】

例 1 加减混合运算的交换律：在加减混合运算中，交换两个数的位置，结果不变.

(1) $87 - 46 + 39$

(2) $287 - 329 + 129$

(3) $4682 + 7348 - 964 - 3028 - 5326$

(4) $23914 - 7543 - 926 + 6086 - 1032$

解：(1) $87 - 46 + 39$

$$= 87 + 39 - 46$$

$$= 126 - 46$$

$$= 80$$

(2) $287 - 329 + 129$

$$= 287 + 129 - 329$$

$$= 416 - 329$$

$$= 87$$

$$(3) 4682 + 7348 - 964 - 3028 - 5326$$

$$= (4682 + 7348) - (964 + 3028 + 5326)$$

$$= 12030 - 9318 = 2712$$

$$(4) 23914 - 7543 - 926 + 6086 - 1032$$

$$= (23914 + 6086) - (7543 - 926 - 1032)$$

$$= 30000 - 9501 = 20499$$

例 2 从一个数中减去两个数的差，等于从这个数中先减去差里的被减数，再加上差里的减数。

$$(1) 639 - (39 - 28) \quad (2) 2408 - (408 - 159)$$

$$\text{解：} (1) 639 - (39 - 28)$$

$$= 639 - 39 + 28$$

$$= 600 + 28$$

$$= 628$$

$$(2) 2408 - (408 - 159)$$

$$= 2408 - 408 + 159$$

$$= 2000 + 159$$

$$= 2159$$

例 3 第一个数减去第二个数再加上第三个数，等于从第一个数减去第二个数与第三个数的差。

$$\text{解：} 2509 - 468 + 68 = 2509 - (468 - 68)$$

$$= 2509 - 400 = 2109$$

【练习】

7. 用简便方法计算下面各题.

$$(1) 682 - (582 - 163)$$

$$(2) 786 - (386 - 157)$$

$$(3) 864 - (464 - 186)$$

$$(4) 4568 - 919 + 419$$

$$(5) 5813 - 843 + 243$$

$$(6) 5135 - 573 + 473$$

$$(7) 648 + 298$$

$$(8) 1527 + 999$$

$$(9) 424 - 297$$

$$(10) 1316 - 998$$

8. 用简便方法计算下面各题.

$$(1) 387 + 496 + 253$$

$$(2) 333 + 517 + 777 + 483$$

$$(3) 272 + 619 + 378$$

$$(4) 425 + 262 + 375 + 238$$

$$(5) 292 + 168 + 108 + 142$$

$$(6) 482 + 569 + 218 + 331$$

$$(7) 631 + 420 + 569 + 9580$$

$$(8) 836 + 623 + 468 + 164$$

9. 用简便方法计算下面各题.

$$(1) 187 + 99$$

$$(2) 578 + 298$$

$$(3) 838 + 97$$

$$(4) 396 + 287$$

- (5) $482 - 98$ (6) $874 - 399$
 (7) $914 - 395$ (8) $1567 - 1067$
 (9) $567 + 201$ (10) $2027 - 127$
 (11) $1518 - 328 - 72$ (12) $4569 - 647 - 353$
 (13) $1037 - 686 - 37$ (14) $4827 - 2385 - 827$
 (15) $791 - 48 - 191 - 252$ (16) $935 - 137 - 263 - 235$
 (17) $587 - (69 + 287 + 31)$
 (18) $669 - (222 + 179 + 169)$
 (19) $429 - (129 - 72)$
 (20) $737 - (337 - 299)$

10. 用简便方法计算下面各题.

- (1) $821 - 456 + 356$
 (2) $4839 - 769 + 769$
 (3) $447 + (253 + 317 + 83)$
 (4) $38 + 29 + 36 + 27 + 28$
 (5) $36 + 55 + 25 + 44 + 42 + 48$
 (6) $657 + 648 + 672 + 666 + 673$
 (7) $637 - (643 - 263) - 67$
 (8) $87 + 74 + 86 + 84 + 76 + 77 + 80 + 88 + 82 + 84$
 (9) $7 + 8 + 9 + 10 + 11 + 12 + 13 + 14$
 (10) $10 + 15 + 20 + 25 + 30 + \dots + 100$
 (11) $9 + 18 + 27 + 36 + 45 + \dots + 180$

2. 乘除法简算

(1) 乘法简算

【例题】

例 1 若干个连续乘，根据乘法的交换律和结合律，可以将其中相乘得整十、整百、整千的乘数先结合起来，再与其他乘数相乘，这样计算起来比较简便.

- (1) $4 \times 67 \times 25$
 (2) $125 \times (73 \times 8)$
 (3) $125 \times 313 \times 4 \times 25 \times 8$

解：(1) $4 \times 67 \times 25$ (2) $125 \times (73 \times 8)$
 $= (4 \times 25) \times 67$ $= (125 \times 8) \times 73$
 $= 100 \times 67$ $= 1000 \times 73$
 $= 6700$ $= 73000$

(3) $125 \times 313 \times 4 \times 25 \times 8$
 $= (125 \times 8) \times (4 \times 25) \times 313$
 $= 1000 \times 100 \times 313$
 $= 31300000$

例 2 若干个连续乘，可以先将其中某一个或几个乘数分解因数，使它与其他乘数相乘得整十、整百、整千的数，再计算出整个算式的结果.

$$(1) 25 \times 16$$

$$(3) 125 \times 78 \times 72$$

$$(5) 625 \times 37 \times 48$$

解：(1) 25×16

$$= 25 \times 4 \times 4$$

$$= 100 \times 4$$

$$= 400$$

$$(3) 125 \times 78 \times 72$$

$$= 125 \times 8 \times 9 \times 78$$

$$= (125 \times 8) \times 9 \times 78$$

$$= 1000 \times 9 \times 78$$

$$= 702000$$

$$(5) 625 \times 37 \times 48$$

$$= (37 \times 3) \times (16 \times 625)$$

$$= 111 \times 10000$$

$$= 1110000$$

$$(2) 125 \times 64 \times 15$$

$$(4) 12 \times 56 \times 375 \times 25$$

$$(2) 125 \times 64 \times 15$$

$$= (125 \times 8) \times (8 \times 15)$$

$$= 1000 \times 120$$

$$= 120000$$

$$(4) 12 \times 56 \times 375 \times 25$$

$$= 3 \times (125 \times 8) \times 7 \times 3 \times (4 \times 25)$$

$$= 3 \times 1000 \times 7 \times 3 \times 100$$

$$= 6300000$$

例 3 几个数同乘以某一个数时，可以根据乘法的分配律，先将几个不同的乘数加起来，然后再与相同的乘数相乘。

$$(1) 43 \times 60 + 5 \times 60$$

$$(2) 432 \times 88 + 162 \times 43 + 432 \times 250$$

$$(3) 295 \times 28 + 295 \times 71 + 295$$

$$(4) 72 + 892 \times 9$$

解：(1) $43 \times 60 + 5 \times 60$

$$= 60 \times (43 + 5)$$

$$= 60 \times 100$$

$$= 6000$$

$$(2) 432 \times 88 + 162 \times 43 + 432 \times 250$$

$$= 432 \times (88 + 162 + 250)$$

$$= 432 \times 500$$

$$= 216000$$

$$(3) 295 \times 28 + 295 \times 71 + 295$$

$$= 295 \times 28 + 295 \times 71 + 295 \times 1$$

$$= 295 \times (28 + 71 + 1)$$

$$= 295 \times 100$$

$$= 29500$$

$$(4) 72 + 892 \times 9$$

$$= 9 \times 8 + 892 \times 9$$

$$= 9 \times (8 + 892)$$

$$= 9 \times 900$$

$$= 8100$$

例 4 利用乘法的运算性质进行简算。

$$(1) (375 - 16) \times 8$$

$$(2) 96 \times 15 - 15 \times 46$$

$$(3) 33 \times 67 - 58 \times 33 + 33$$

$$(4) 456 \times 198$$

$$(5) 102 \times 74$$

$$(6) 45 \times 28$$

$$(7) 125 \times 6400$$

解：(1) $(375-16) \times 8$

$$= 375 \times 8 - 16 \times 8$$

$$= 3000 - 128$$

$$= 2872$$

(2) $96 \times 15 - 15 \times 46$

$$= 15 \times (96 - 46)$$

$$= 15 \times 50$$

$$= 750$$

(3) $33 \times 67 - 58 \times 33 + 33$

$$= 33 \times (67 - 58 + 1)$$

$$= 33 \times 10$$

$$= 330$$

(4) 456×198

$$= 456 \times (200 - 2)$$

$$= 456 \times 200 - 456 \times 2$$

$$= 90288$$

(5) 102×74

$$= (100 + 2) \times 74$$

$$= 7400 + 148$$

$$= 7548$$

(6) 45×28

$$= (45 \times 2) \times (28 \div 2)$$

$$= 90 \times 14$$

$$= 1260$$

(7) 125×6400

$$= (125 \times 8) \times (6400 \div 8)$$

$$= 1000 \times 800$$

$$= 800000$$

例 5 几种特殊数乘法的简便算法.

(1) 58×52

(2) 67×47

(3) 66×91

(4) 98×97

解：(1) 58×52 (十位数相同、个位数互补)

$$= (5 + 1) \times 5 \times 100 + 8 \times 2$$

$$= 30 \times 100 + 16$$

$$= 3000 + 16$$

$$= 3016$$

十位数相同，个位数互补的简便方法是：首位（“5”即十位数）加1的和再乘以首位数作为积的前两位数；末位数（即个位数）相乘的积作为积的后两

位数.

(2) 67×47 (个位数相同、十位数互补)

$$= (6 \times 4 + 7) \times 100 + 7 \times 7$$

$$= 31 \times 100 + 49$$

$$= 3100 + 49$$

$$= 3149$$

个位数相同，十位数互补的速算法是：首位(“6”)乘以首位(“4”)再加上个位数作为积的前两位(即： $6 \times 4 + 7 = 31$)，末位数乘以末位数(个位数)的积(7×7)作为积的后两位数。

(3) 66×91

$$= (6 \times 9 + 6) \times 100 + 1 \times 6$$

$$= 60 \times 100 + 6$$

$$= 6000 + 6$$

$$= 6006$$

一个因数是11的倍数，另一个因数个位和十位数字互补(“9”和“1”)。速算法是：首位数(即十位数)乘以首位数，再加上相同数中的一个数作为积的前两位，末位数乘以末位数的积作为积的后两位数。

(4) 98×97

$$= [98 - (100 - 97)] \times 100 + (100 - 98) \times (100 - 97)$$

$$= [98 - 3] \times 100 + 2 \times 3$$

$$= 95 \times 100 + 6$$

$$= 9500 + 6$$

$$= 9506$$

一个因数减去另一个因数的补数($98 - 3$)作为积的前两位数(95)；两个因数补数的乘积作为积的后两位数。

【练习】

11. 口算下面各题，并熟记它们的得数。

5×2

25×4

125×8

625×16

37×3

75×4

375×8

12×5

15×8

12. 选择适当的简算方法计算下列各题。

$37 \times 20 \times 5$

$15 \times 71 \times 4$

$82 \times 25 \times 40$

$125 \times 397 \times 8$

$326 \times 4 \times 15 \times 25$

$4 \times 783 \times 250$

$57 \times 1250 \times 41 \times 8$

$5 \times (61 \times 4)$

$125 \times (31 \times 8)$

50×88

25×32

125×56

$125 \times 64 \times 25$

$26 \times 72 \times 625$

$37 \times 12 \times 25$

$84 \times (25 \times 37)$

$43 \times 91 + 91 \times 57$

$58 \times 46 + 46 + 41 \times 46$

55×102

$597 \times 8 + 24$

$(375 - 9) \times 8$

$473 \times 50 + 50 \times 127$

$68 \times 75 - 68 \times 66 + 68$

438×298

4125×800

$$\begin{array}{ll}
74 \times 139 - 38 \times 74 - 37 \times 2 & \\
895 \times 125 - 125 \times 94 - 25 \times 5 & \\
1274 \times 5 & 36024 \times 25 \\
36024 \times 125 & 87160 \times 125 \\
6828 \times 15 & 8846 \times 15 \\
6945 \times 11 & 4863 \times 11 \\
5434 \times 101 & 3789 \times 101 \\
96 \times 94 & 82 \times 77 \\
76 \times 3600 & 570 \times 53000 \\
8800 \times 64 & 7500 \times 35000 \\
99 \times 88 & 989 \times 999 \\
573 \times 102 & 634 \times 1989
\end{array}$$

(2) 除法简算

【例题】

例 1 在除法算式中，被除数除以 5、25、125 的简算。

(1) 530×5

(2) $6600 \div 25$

(3) $68000 \div 125$

解：(1) $530 \div 5$
 $= (530 \times 2) \div (5 \times 2)$
 $= 1060 \div 10$
 $= 106$

根据上述的计算，可以得到：在一道除法里，被除数除以 5，先用被除数乘以 2，再消去乘积后面的一个 0。

(2) $6600 \div 25$
 $= (6600 \times 4) \div (25 \times 4)$
 $= 26400 \div 100$
 $= 264$

根据第(2)小题的计算，我们可得到：在一道除法里，被除数除以 25，先用被除数乘以 4，再消去乘积后面的两个 0。

(3) $68000 \div 125$
 $= (68000 \times 8) \div (125 \times 8)$
 $= 544000 \div 1000$
 $= 544$

由此，我们可以得到：在一道除法里，被除数除以 125，先用被除数乘以 8，再消去乘积后面的三个 0。

例 2 利用除法的交换、分配和结合的性质，进行简便计算。

(1) $6498 \div 19 \div 9$

(2) $4597600 \div 25 \div 4$

(3) $3216 \div 8$

(4) $4740 \div 12$

(5) $5600 \div (28 \times 25)$

$$(6) 67949 \div 17$$

$$\text{解：(1) } 6498 \div 9 \div 9$$

$$= 6498 \div 9 \div 9$$

$$= 722 \div 9$$

$$= 38$$

$$(2) 4597600 \div 25 \div 4$$

$$= 4597600 \div (25 \times 4)$$

$$= 4597600 \div 100$$

$$= 45976$$

$$(3) 3216 \div 8$$

$$= (3200 + 16) \div 8$$

$$= 3200 \div 8 + 16 \div 8$$

$$= 400 + 2$$

$$= 402$$

$$(4) 4740 \div 12$$

$$= (4800 - 60) \div 12$$

$$= 4800 \div 12 - 60 \div 12$$

$$= 400 - 5$$

$$= 395$$

$$(5) 5600 \div (28 \times 25)$$

$$= 5600 \div 28 \div 25$$

$$= 200 \div 25$$

$$= 8$$

$$(6) 67949 \div 17$$

$$= (68000 - 51) \div 17$$

$$= 68000 \div 17 - 51 \div 17$$

$$= 4000 - 3 = 3997$$

例 3 应用除法的性质，可以进行简便计算。

$$(1) (144 + 63) \div 9$$

$$(2) 1344 \div 24 + 2088 \div 24 + 864 \div 24$$

$$(3) (264 - 96) \div 12$$

$$(4) 2114 \div 24 - 1344 \div 24 + 862 \div 24$$

$$\text{解：(1) } (144 + 63) \div 9$$

$$= 144 \div 9 + 63 \div 9$$

$$= 16 + 7 = 23$$

$$(2) 1344 \div 24 + 2088 \div 24 + 864 \div 24$$

$$= (1344 + 2088 + 864) \div 24$$

$$= 4296 \div 24$$

$$= 179$$

$$(3) (264 - 96) \div 12$$

$$= 264 \div 12 - 96 \div 12$$

$$= 22 - 8 = 14$$

$$(4) 2114 \div 24 - 1344 \div 24 + 862 \div 24$$

$$= (2114 - 1344 + 862) \div 24$$

$$= 1632 \div 24 = 68$$

【练习】

13. 用简便方法计算下面各题.

(1) $4120 \div 5$

(2) $1035 \div 5$

(3) $42600 \div 25$

(4) $9750 \div 25$

(5) $72000 \div 125$

(6) $4125 \div 125$

(7) $(72 + 56) \div 8$

(8) $105 \div 72 + 456 \div 72 + 447 \div 72$

(9) $(150 - 75) \div 15$

(10) $3895 \div 41 - 1058 \div 41 - 828 \div 41$

(11) $2280 \div 34 - 648 \div 34 + 476 \div 34$

(12) $1675 \div 57 + 1478 \div 57 - 531 \div 57$

(13) $7200 \div (30 \times 4)$

(14) $5400 \div 15 \div 4$

(15) $8100 \div (27 \div 7)$

(16) $567 \div 105 \times 35$

(17) $84 \div 72 \times 36 \div 21$

(18) $132 \times 288 \div (24 \times 11)$

(19) $90000 \div 125 \div 2 \div 5 \div 8$

(20) $7344000 \div 625 \div 72$

3. 四则混合运算

小学数学的简便计算主要是根据四则运算的定律和运算性质，利用数和数之间的特殊关系，能够正确、合理地进行组合和分解、凑整十、整百、整千……的数，再进行计算。

【例题】

例 1 运用乘法运算定律，凑整十、整百、整千……的数，进行简算。

(1) $99 + 99 \times 99 + 99 - 9999$

(2) $11 \times 11 \times 11 - 11 \times 11 - 10$

解：(1) $99 + 99 \times 99 + 99 - 9999$

$$= 99 \times (1 + 99 + 1) - 99 \times 101$$

$$= 99 \times 101 - 99 \times 101$$

$$= 0$$

或者： $99 + 99 \times 99 + 99 - 9999$

$$= 99 \times (1 + 99) + 99 - 9999$$

$$= 99 \times 100 + 99 - 9999$$

$$= 9900 + 99 - 9999$$

$$= 0$$

(2) $11 \times 11 \times 11 - 11 \times 11 - 10$

$$= 121 \times 11 - 121 - 10$$

$$= 121 \times (11 - 1) - 10$$

$$= 121 \times 10 - 10$$

$$= 1210 - 10$$

$$= 1200$$

或者： $11 \times 11 \times 11 - 11 \times 11 - 10$

$$= 11 \times 11 \times (11 - 1) - 10$$

$$= 121 \times 10 - 10$$

$$= 1210 - 10$$

$$= 1200$$

例 2 在乘法混合运算中，改变运算顺序结果不变，也可以进行简便计算。

$$(1) 7 \div 13 \times 52 \div 4$$

$$(2) (48 \times 75 \times 81) \div (24 \times 25 \times 27)$$

解：(1) $7 \div 13 \times 52 \div 4$

$$= (7 \times 52) \div (13 \times 4)$$

$$= 364 \div 52 = 7$$

$$(2) (48 \times 75 \times 81) \div (24 \times 25 \times 27)$$

$$= 48 \times 75 \times 81 \div 24 \div 25 \div 27$$

$$= (48 \div 24) \times (75 \div 25) \times (81 \div 27)$$

$$= 2 \times 3 \times 3$$

$$= 18$$

例 3 利用数的分解凑整进行简算。

$$(1) 9999^2 + 19999 \text{ (把一个数分解成两个数的和)}$$

$$(2) 34999965 \div 35 \text{ (把一个数分解成两个数的差)}$$

$$(3) 1991 \times 19921992 - 19911991 \times 1992$$

$$(4) 33333 \times 33333$$

解：(1) $9999^2 + 19999$

$$= 9999^2 + 9999 + 10000$$

$$= 9999 \times (9999 + 1) + 10000$$

$$= 9999 \times 10000 + 10000$$

$$= 10000 \times (9999 + 1)$$

$$= 10000 \times 10000$$

$$= 100000000$$

$$(2) 34999965 \div 35$$

$$= (35000000 - 35) \div 35$$

$$= 35000000 \div 35 - 35 \div 35$$

$$= 1000000 - 1$$

$$= 999999$$

$$(3) 1991 \times 19921992 - 19911991 \times 1992$$

$$= 1991 \times 1992 \times 10001 - 1991 \times 10001 \times 1992$$

$$= 1991 \times 1992 \times (10001 - 10001)$$

$$= 1991 \times 1992 \times 0$$

$$= 0$$

$$(4) 33333 \times 33333$$

$$= 11111 \times 3 \times 33333$$

$$= 11111 \times 99999$$

$$= 11111 \times (100000 - 1)$$

$$\begin{aligned}
&= 11111 \times 100000 - 11111 \\
&= 1111100000 - 11111 \\
&= 1111088889
\end{aligned}$$

【练习】

14. 用简便方法计算下面各题.

$$3 \times 999 + 3 + 99 \times 8 + 8 + 2 \times 9 + 9$$

$$125 \times 128 - 125 \times 27 - 125$$

$$(11 \times 9 + 11) \times (111 \times 999 + 111) \times (7 \times 11 \times 13 - 1001)$$

$$(24 \times 21 \times 45) \div (15 \times 4 \times 7)$$

$$(125 \times 72 \times 24) \div 9 \div 8$$

$$111 \times 111$$

$$1111 \times 1111$$

$$999 \times 999$$

$$9999 \times 9999$$

15. 利用数的分解法计算下面各题.

$$(1) 9 + 99 + 999 + 9999 + 99999$$

$$(2) 2772 \div 28$$

$$(3) 579999971 \div 29$$

$$(4) 1986 + 331 \times 594$$

$$(5) 1111 \times 58 + 6666 \times 7$$

$$(6) 99999 \times 77778 + 33333 \times 66666$$

$$(7) 321 \times 17 + 107 \times 39 + 1070$$

$$(8) 2999998 + 299997 + 29996 + 2995 + 294 + 23$$

16. 用简便方法计算下列各题.

$$(1) 54 + 38 + 46$$

$$(2) 37 + 44 + 56$$

$$(3) 88 + (37 + 22)$$

$$(4) 67 + 15 + 33$$

$$(5) 375 + 342 + 658 + 625$$

$$(6) 827 + 74 + 36 + 163$$

$$(7) 428 + 267 + (733 + 572)$$

$$(8) 536 + (541 + 464) + 469$$

$$(9) 327 + 108(10)325 + 98$$

$$(11) 872 - 48 - 272$$

$$(12) 384 - (184 + 36)$$

$$(13) 528 - (138 - 72)$$

$$(14) 387 - 124$$

$$(15) 564 - 387 + 187$$

$$(16) 843 + 78 - 43$$

$$(17) 274 - 87 + 26 - 13$$

$$(18) 936 - 867 - 99 + 267$$

$$(19) 813 - (613 - 237)$$

$$(20) 537 - (543 - 163) - 57$$

$$(21) 36 \times (468 \div 9)$$

$$(22) 58 \div 17 \times 34$$

$$(23) 48 \times 5$$

$$(24) 24 \times 25$$

$$(25) 56 \times 125$$

$$(26) 26 \times 64 \times 625$$

- (27) $84 \times (25 \times 37)$
(28) $68 \times 36 + 36 + 31 \times 36$
(29) $84 \times 29 - 18 \times 84 - 21 \times 4$
(30) $72 \times (51 \div 12)$
(31) $4321 - 1996 + 1998$
(32) $6000 + 888 - 887 + 889 - 887$
(33) $3996 + 1995 - 1996 - 2998 + 1989$
(34) $3542 - 809$
(35) $1047 - 437 - 163$
(36) $8 + 98 + 998 + 9998 + 99998$
(37) $1 + 2 + 3 + 4 + 5 + \dots + 40$
(38) $10000 - 1 - 2 - 3 - 4 - \dots - 80$
(39) $85 + 86 + 87 + 88 + 89 + \dots + 200$
(40) $100 + 102 + 104 + 106 + \dots + 398$

四、小数简算

1. 加减法简算

在小数加减法运算中，可以应用整数加减法的运算定律或运算性质，使运算达到简便、迅速。

【例题】

例 1 利用“凑整”的方法，先将几个小数相加或相减得整数，再与其他数相加或相减，得出结果。

$$(1) 0.4 + 7.89 + 3.6 + 0.11$$

$$(2) 7.36 + 0.82 + 5.14 + 22.64$$

$$\begin{aligned} \text{解：} (1) & 0.4 + 7.89 + 3.6 + 0.11 \\ & = (0.4 + 3.6) + (7.89 + 0.11) \\ & = 4 + 8 \\ & = 12 \end{aligned}$$

$$\begin{aligned} (2) & 7.36 + 0.82 + 5.18 + 22.64 \\ & = (7.36 + 22.64) + (0.82 + 5.18) \\ & = 30 + 6 \\ & = 36 \end{aligned}$$

例 2 如果加数或减数是接近整千、整百、整十的数，可以应用前面学习整数加减法的简便方法，也使小数加减法运算达到简便。

$$(1) 27.58 + 13.96 - 5.98$$

$$(2) 100.45 - 10.03 + 4.97 - 31.99$$

$$(3) 225.43 - 74.56$$

$$(4) 47.36 - 5.83 - 0.142 + 12.64 - 2.037$$

$$\begin{aligned} \text{解：} (1) & 27.58 + 13.96 - 5.98 \\ & = 27.58 + 14 - 0.04 - 6 + 0.02 \\ & = 27.58 + 14 - 6 - 0.04 + 0.02 \\ & = 35.58 - 0.02 = 35.56 \\ (2) & 100.45 - 10.03 + 4.97 - 31.99 \\ & = 100.45 - 10 - 0.03 + 5 - 0.03 - 32 + 0.01 \\ & = 100.45 - 10 + 5 - 32 - 0.03 - 0.03 + 0.01 \\ & = 63.45 - 0.05 = 63.4 \\ (3) & 225.43 - 74.56 \\ & = 225.56 - 74.56 - 0.13 \\ & = 151 - 0.13 \\ & = 150.87 (\text{变更被减数}) \\ (4) & 47.36 - 5.83 - 0.142 + 12.64 - 2.037 \\ & = (47.36 + 12.64) - (5.83 + 0.142 + 2.037) \\ & = 60 - 8.009 \\ & = 51.991 (\text{利用前位凑 9，末位凑 10}) \end{aligned}$$

【练习】

1. 在下面的 里填上适当的数，并写出各应用了哪个运算定律。

$$(1) 6.3 + 5.95 + 3.7 = 6.3 + \quad + 5.95$$

$$(2)(1.28 + 2.75) + 0.25 = \quad + (\quad + \quad)$$

2. 用简便方法计算下面各题.

$$(1) 7.6 + 9.9$$

$$(2) 13.7 + 0.98$$

$$(3) 8.4 + 1.02$$

$$(4) 7.8 + 1.01$$

$$(5) 4.98 + 1.97$$

$$(6) 4.8 - 0.97$$

$$(7) 3.05 - 0.99$$

$$(8) 4.3 - 1.02$$

$$(9) 4.71 - 2.03$$

$$(10) 7.5 - 2.97$$

$$(11) 10.04 + 2.95$$

$$(12) 16.94 - 12.98$$

$$(13) 13.47 - 7.89$$

$$(14) 230.39 - 112.48$$

$$(15) 225.76 - 113.88$$

$$(16) 17.054 - 9.066$$

$$(17) 0.384 + 2.36 + 4.64$$

$$(18) 3.29 + 4.7 + 5.3 + 0.71$$

$$(19) 1.88 + 2.3 + 0.7$$

$$(20) 5.26 + 3.63 + 0.74$$

$$(21) 1.9 + 9.08 + 0.92 + 0.1$$

$$(22) 18.76 - 3.47 - 0.53$$

$$(23) 5.17 - 1.8 - 3.2$$

$$(24) 4.9 + 0.1 - 4.9 + 0.1$$

$$(25) 5.6 + 2.7 + 4.4$$

$$(26) 32.54 - 0.46 - 4.54$$

$$(27) 13.7 + 0.98 + 0.02 + 4.3$$

$$(28) 48.14 - 2.43 - 7.57$$

$$(29) 67 + 3.3 + 2.7 + 33$$

$$(30) 51.27 - 8.66 - 1.34$$

$$(31) 72.8 - 8.6 + 0.2 - 1.4$$

$$(32) 117.84 - 26.95 - 13.08 - 6.98$$

$$(33) 20 - 4.96 + 7.92 - 10.99$$

$$(34) 34.63 - 12.84 - 9.73 - 10.28$$

$$(35) 7.58 - 0.436 - 2.85 - 4.007$$

$$(36) 724.3 - 68.72 + 275.7 - 23.5 - 148.66$$

$$(37) 120 - 14.38 - 85.62$$

$$(38) 78.14 - 12.43 - 17.57$$

$$(39) 127.5 - (16.73 + 27.5)$$

$$(40) 84.67 - (14.67 + 15.3)$$

2. 乘除法简算

(1) 乘法简算

应用乘法的运算定律和运算性质, 可以使一些小数的乘除法计算简便.

【例题】

例 1 用简便方法计算下面各题.

$$(1) 0.25 \times 3.6$$

$$(2) 3.2 \times 1.25$$

$$(3) 10.8 \times 1.25$$

$$(4) 0.6 \times 0.25 \times 0.4$$

$$(5) 0.88 \times 100.5$$

$$(6) 20 \times 0.63 \times 0.5$$

$$(7) 8080 \times 1.25$$

$$\text{解：(1) } 0.25 \times 3.6$$

$$= 0.25 \times (4 \times 0.9)$$

$$= (0.25 \times 4) \times 0.9$$

$$= 1 \times 0.9 = 0.9$$

$$(2) 3.2 \times 1.25$$

$$= 4 \times 0.8 \times 1.25$$

$$= (0.8 \times 1.25) \times 4 = 1 \times 4 = 4$$

$$(3) 10.8 \times 1.25$$

$$= (10 + 0.8) \times 1.25$$

$$= 10 \times 1.25 + 0.8 \times 1.25$$

$$= 12.5 + 1$$

$$= 13.5$$

分析：上面三道题都不能直接应用乘法的运算定律和性质进行简算。但是，可以根据原题特征和数据特点，分解某一个因数，再经过适当的变换，计算起来就比较简便。

在(1)题中，把3.6看成4与0.9的积，并运用乘法的交换律和结合律，把4与0.25结合，算出得数1，再与0.9相乘，就可以很快地算出得数。

在(2)题中，先把3.2看成是4与0.8的积，这样使原来算式变成了 $4 \times 0.8 \times 1.25$ ，再运用乘法的结合律(和交换律)，求出最后结果。

在(3)题中，把10.8分解为10与0.8相加的和，则原式变为 $(10 + 0.8) \times 1.25$ ，而0.8与1.25相乘的积等于1。这样，再计算就很简便了。

$$(4) 0.6 \times 0.25 \times 0.4$$

$$= (0.25 \times 0.4) \times 0.6$$

$$= 0.1 \times 0.6 = 0.06$$

$$(5) 0.88 \times 100.5$$

$$= 0.88 \times (100 + 0.5)$$

$$= 0.88 \times 100 + 0.88 \times 0.5$$

$$= 88 + 0.44 = 88.44$$

$$(6) 20 \times 0.63 \times 0.5$$

$$= (20 \times 0.5) \times 0.63$$

$$= 10 \times 0.63$$

$$= 6.3$$

$$(7) 8080 \times 1.25$$

$$= (8000 + 80) \times 1.25$$

$$= 8000 \times 1.25 + 80 \times 1.25$$

$$= 10000 + 100$$

$$= 10100$$

$$(8) 6125 \times 0.08$$

$$= (6000 + 125) \times 0.08$$

$$= 6000 \times 0.08 + 125 \times 0.08$$

$$= 480 + 10 = 490$$

例2 在整数乘法中，二数相乘时，如果有一个因数是15，那么它们的

积，就等于另一个因数“加半添0”或称“加半移一法”。

$$(1) 0.38 \times 15$$

$$(2) 4.6 \times 0.15$$

解：(1) 0.38×15

$$=(38 + 38 \div 2) \times 10 \div 100$$

$$=570 \div 100$$

$$=5.7$$

(2) 4.6×0.15

$$=(46 + 46 \div 2) \times 10 \div 1000$$

$$=690 \div 1000$$

$$=0.69$$

例3 我们前面已经学习和掌握了一个数乘以整十、整百……的数，算起来非常简便。为此，应用“一个因数扩大几倍（零除外），另一个因数缩小同一倍数，它们的积不变”这条规律，也可以使一些小数的乘法计算简便。

$$(1) 1.25 \times 5.6 \quad (2) 48 \times 0.25$$

解：(1) 1.25×5.6

$$=(1.25 \times 8) \times (5.6 \div 8)$$

$$=10 \times 0.7=7$$

(2) 48×0.25

$$=(48 \div 4) \times (0.25 \times 4)$$

$$=12 \times 1=12$$

【练习】

3. 用简便方法计算下面各题。

$$(1) 1.25 \times 7 \times 0.8$$

$$(2) 0.25 \times 0.8 \times 4$$

$$(3) 0.8 \times 0.14 \times 0.125$$

$$(4) 50 \times 1.72 \times 0.2$$

$$(5) 4.5 \times 1.5 \times 0.4 \times 2$$

$$(6) 1.5 \times 0.9 \times 0.4$$

$$(7) 0.2 \times 1.6 \times 0.5 \times 10$$

$$(8) 7.8 \times 5 \times 0 \times 3.8$$

$$(9) 3.2 \times 0.125 \times 25$$

$$(10) 7.4 \times 0.99$$

$$(11) 4.5 \times 1.02$$

$$(12) 2.5 \times 1.25 \times 4 \times 8$$

$$(13) 47.5 \times 84 \times 37.5 \times 0 \times 26$$

$$(14) 4.4 \times 25$$

$$(15) 101 \times 5.3$$

$$(16) 50 \times 0.017 \times 0.02$$

$$(17) 28 \times 2.5$$

$$(18) 3.2 \times 1.25$$

$$(19) 6.4 \times 2.5$$

$$(20) 7.2 \times 2.01$$

$$(21) 0.125 \times 32 \times 2.5$$

$$(22) 0.5 \times 2.1 \times 5 \times 13 \times 0.2$$

$$(23) 12.5 \times 7.8 \times 0.8$$

$$(24) 0.25 \times 63 \times 40$$

$$(25) 32.4 \times 2.5 \times 400$$

$$(26) 80 \times 7.3 \times 0.125$$

$$(27) 2.04 \times 0.25 \times 7.2 \times 12.5$$

$$(28) 2250 \times 124 \times 375 \times 0.08$$

$$(29) 15.37 \times 1.25 \times 80 \times 4 \times 2.5$$

$$(30) 246 \times 1250 \times 0.025 \times 0.08 \times 0.4$$

(2) 除法简算

【例题】

例 1 根据被除数和除数同时乘以或除以同一个数(零除外),商不变的规律,及某数除以 1 仍得某数的运算特性,可以使一些除法算得快.

$$(1) 2.4 \div 0.5$$

$$(2) 1.2 \div 2.5$$

$$(3) 3.1 \div 0.125$$

解: (1) $2.4 \div 0.5$

$$=(2.4 \times 2) \div (0.5 \times 2)$$

$$=4.8 \div 1=4.8$$

(2) $1.2 \div 2.5$

$$=(1.2 \times 4) \div (2.5 \times 4)$$

$$=4.8 \div 10$$

$$=0.48$$

(3) $3.1 \div 0.125$

$$=(3.1 \times 8) \div (0.125 \times 8)$$

$$=24.8 \div 1=24.8$$

例 2 我们还知道了:一个数除以几个数的积,可以用积中的各个因数,去除这个数.应用这个运算性质,也能使某些除法计算简便.

$$(1) 0.99 \div 45$$

$$(2) 31.4 \div 2.5 \div 4$$

$$(3) 12.5 \div (12.5 \times 4)$$

$$(4) 10.8 \div 1.2 \div 3$$

分析:我们知道了:整数除法的运算性质同样适用于小数除法.在(1)题中,由于 $45=90 \div 2$,所以把 45 化成 90 除以 2 的商,然后利用运算性质 $a \div (b \div c)=a \div b \times c$ 进行计算比较简便.还可以把 0.99 转化成 0.9 与 0.09 的和,然后利用运算性质 $(a+b) \div c=a \div c + b \div c$ 进行简便计算.

在(2)题中,由于 $2.5 \times 4=10$,可以利用运算性质 $a \div b \div c=a \div (b \times c)$ 进行计算比较简便.

解:(1)解法一:

$$0.99 \div 45$$

$$=0.99 \div (90 \div 2)$$

$$=0.99 \div 90 \times 2$$

$$=0.011 \times 2$$

$$=0.022$$

解法二:

$$0.99 \div 45$$

$$=(0.9 + 0.09) \div 45$$

$$=0.9 \div 45 + 0.09 \div 45$$

$$=0.02 + 0.002$$

$$=0.022$$

(2) $31.4 \div 2.5 \div 4$

$$=31.4 \div (2.5 \times 4)$$

$$=31.4 \div 10$$

$$=3.14$$

(3) $12.5 \div (12.5 \times 4)$

$$=12.5 \div 12.5 \div 4$$

$$=1 \div 4$$

$$=0.25$$

(4)解法一：

$$10.8 \div 1.2 \div 3$$

$$=10.8 \div (1.2 \times 3)$$

$$=10.8 \div 3.6$$

$$=3$$

解法二：

$$10.8 \div 1.2 \div 3$$

$$=10.8 \div 3 \div 1.2$$

$$=3.6 \div 1.2$$

$$=3$$

【练习】

4.用简便方法计算下面各题.

(1) $1.8 \div 0.5$

(2) $7.3 \div 0.5$

(3) $2.1 \div 2.5$

(4) $1.3 \div 0.25$

(5) $1.2 \div 0.125$

(6) $21 \div 1.25$

(7) $0.78 \div 0.25 \div 4$

(8) $3.4 \div 1.25 \div 8$

(9) $9.6 \div (9.6 \times 4)$

(10) $3.14 \div (3.14 \times 8)$

(11) $5.6 \div 0.8 \div 0.2$

(12) $3.7 \times 0.25 \times 4$

(13) $0.125 \times 3.7 \times 80$

(14) $6.6 \times 1.1 \times 2$

(15) $2.3 \times 8 \times 1.25$

(16) 102×3.4

(17) $0.5 \times 0.7 \times 5 \times 3 \times 0.4$

(18) $27.8 \div 2.5 \div 4$

(19) $785.1 \div 8 \div 12.5$

(20) $5.88 \div (0.6 \times 0.7)$

(21) $29.7 \div (0.9 \times 0.3)$

(22) $7.38 \div 5 \div 2$

(23) $9.9856 \div 125 \div 8$

(24) $0.125 \times 32 \times 0.25$

(25) 65×10.1

(26) 88×0.99

(27) $48.5 \times (6.8 \times 0.2)$

(28) $3.9 \times (0.13 \times 3)$

(29) $370 \div 12.5 \div 0.08$

(30) $63636.3 + 6363.63 + 636.363 + 63.6363 + 6.36363$

3. 四则混合运算简算

【例题】

例1 用简便方法计算下面各题.

(1) $(4.8 \times 7.5 \times 8.1) \div (2.4 \times 2.5 \times 2.7)$

(2) $0.125 \times 0.25 \times 0.5 \times 64$

$$(3) 3.75 \times 4.8 + 62.5 \times 0.48$$

$$(4) 1.35 \times 0.61 - 0.35 \times 0.61$$

解：(1)解法一：

$$(4.8 \times 7.5 \times 8.1) \div (2.4 \times 2.5 \times 2.7)$$

$$=(48 \times 75 \times 81) \div (24 \times 25 \times 27)$$

$$=(12 \times 4 \times 25 \times 3 \times 81) \div (6 \times 4 \times 25 \times 3 \times 9)$$

$$=(12 \times 100 \times 3 \times 81) \div (6 \times 100 \times 3 \times 9)$$

$$=(12 \times 81) \div (6 \times 9)$$

$$=(2 \times 6 \times 9 \times 9) \div (6 \times 9)$$

$$=2 \times 9 = 18$$

从 $(48 \times 75 \times 81) \div (24 \times 25 \times 27)$ 中可以看出：48是24的2倍，75是25的3倍，81是27的3倍，所以可以直接利用运算性质简算。

解法二：

$$(4.8 \times 7.5 \times 8.1) \div (2.4 \times 2.5 \times 2.7)$$

$$=(4.8 \div 2.4) \times (7.5 \div 2.5) \times (8.1 \div 2.7)$$

$$=2 \times 3 \times 3 = 18$$

(2)解法一：

$$0.125 \times 0.25 \times 0.5 \times 64$$

$$=0.125 \times 0.25 \times 0.5 \times (2 \times 4 \times 8)$$

$$=(0.125 \times 8) \times (0.25 \times 4) \times (0.5 \times 2)$$

$$=1 \times 1 \times 1 = 1$$

解法二：

$$0.125 \times 0.25 \times 0.5 \times 64$$

$$=0.125 \times (0.25 \times 0.5) \times (8 \times 8)$$

$$=(0.125 \times 8) \times (0.125 \times 8)$$

$$=1 \times 1 = 1$$

解法三：

$$0.125 \times 0.25 \times 0.5 \times 64$$

$$=(64 \times 0.5) \times 0.25 \times 0.125$$

$$=32 \times (0.5 \times 0.5) \times (0.5 \times 0.5 \times 0.5)$$

$$=(32 \times 0.5) \times 0.5 \times 0.5 \times 0.5 \times 0.5$$

$$=(16 \times 0.5) \times 0.5 \times 0.5 \times 0.5$$

$$=(8 \times 0.5) \times 0.5 \times 0.5$$

$$=(4 \times 0.5) \times 0.5$$

$$=2 \times 0.5 = 1$$

通过第(2)题三种算法，你认为哪一种最简便？你还有没有其它的简便解法？

(3)解法一：

$$3.75 \times 4.8 + 62.5 \times 0.48$$

$$= 37.5 \times 0.48 + 62.5 \times 0.48$$

$$=(37.5 + 62.5) \times 0.48$$

$$=100 \times 0.48 = 48$$

解法二：

$$3.75 \times 4.8 + 62.5 \times 0.48$$

$$=3.75 \times 4.8 + 6.25 \times 4.8$$

$$=(3.75 + 6.25) \times 4.8$$

$$=10 \times 4.8=48$$

$$(4) 1.35 \times 0.61 - 0.35 \times 0.61$$

$$=(1.35 - 0.35) \times 0.61$$

$$=1 \times 0.61$$

$$=0.61$$

例 2 看一看下面的算式有什么特点？运用什么运算定律可以使计算简便？

$$(1) 1.56 \times 1.7 + 0.44 \times 1.7 - 0.7$$

$$(2) 11.72 - 7.85 - (2.26 + 0.46)$$

解：(1) $1.56 \times 1.7 + 0.44 \times 1.7 - 0.7$

$$=1.7 \times (1.56 + 0.44) - 0.7$$

$$=1.7 \times 2 - 0.7$$

$$=3.4 - 0.7$$

$$=2.7$$

$$(2) 11.72 - 7.85 - (2.26 + 0.46)$$

$$=11.72 - 7.85 - 2.72$$

$$=11.72 - 2.72 - 7.85$$

$$=9 - 7.85$$

$$=1.15$$

例 3 计算： $0.1 + 0.3 + 0.5 + 0.7 + \dots + 0.97 + 0.99$

分析：从 0.1 到 0.9，前后两个数相差 0.2，从 0.11 到 0.99 前后两个数相差 0.02。

解： $0.1 + 0.3 + 0.5 + 0.7 + \dots + 0.97 + 0.99$

$$=(0.1 + 0.3 + 0.5 + 0.7 + 0.9) + (0.11 + 0.13 + \dots$$

$$+ 0.19) + (0.21 + 0.23 + \dots + 0.29) + \dots + (0.91$$

$$+ 0.93 + \dots + 0.99)$$

$$=2.5 + (0.1 \times 5 + 0.25) + (0.25 \times 5 + 0.25) + \dots$$

$$+ (0.9 \times 5 + 0.25)$$

$$=2.5 + (0.1 + 0.2 + \dots + 0.9) \times 5 + 0.25 \times 9$$

$$=2.5 + 22.5 + 2.25 = 27.25$$

【练习】

5. 口算下面各题，并把它们得数熟记。

1.5×4

2.5×8

$1 \div 0.125$

0.25×0.4

0.8×1.25

1.4×0.5

5×0.2

0.06×1.5

6. 用简便方法计算下面各题。

$(1) 5.5 \times 17.3 + 6.7 \times 5.5$

$(2) 13.7 \times 0.25 \times 8$

$(3) 32.8 + 5.6 + 7.2$

$(4) 4.6 \times 2.5 \times 40$

$(5) 12.5 \times 3 \times 3 \times 8$

$(6) 50 \times 0.47 \times 0.2$

$(7) 101 \times 7.3$

$(8) 10.1 \times 54$

$(9) 42.6 - 2.77 - 7.23$

$(10) 16.4 - 16.4 \times 0.5$

$(11) 2.18 + 4.65 + 7.82 + 4.35$

- (12) $12.48 - 2.72 - 3.28$
(13) $(250 + 2.5) \times 4$
(14) $4 \times 7 \times 0.5 \times 3 \times 5$
(15) $(125 + 1.25) \times 8$
(16) $775 + 10.9 + 9.1 + 225$
(17) $12.4 - 2.68 - 7.32$
(18) $7 \times 1.785 + 3 \times 1.785$
(19) $5.25 \div 15 + 3.75 \div 15$
(20) $18.4 \times 1.7 + 18.4 \times 8.3$
(21) $7.6 \times 5.3 + 7.6 \times 3.7 + 7.6$
(22) $45.6 \div 38 - 7.6 \div 38$
(23) $(0.45 + 0.06 + 1.5) \div 0.15$
(24) $2.75 \div 54 + 2.65 \div 54$
(25) 1.25×8.8 (26) 0.89×10.1
(27) $25 \times 5.26 \times 40$ (28) $0.125 \times 32 \times 25$
(29) $0.36 \times 0.5 + 0.36 \times 0.4 + 0.36 \times 0.1$
(30) $0.38 + 13.4 + 1.62 + 4.6$
(31) $0.125 \times 78 \times 80$
(32) $9.1 \times 1.1 - 9.1 \times 0.1$
(33) $0.125 \times 32 \times 25 \times 58$
(34) $1.86 \times 1.3 + 1.86 \times 5.7 + 1.86 \times 2 + 1.86$
(35) $79 \times 0.99 + 21.79$

五、分数简算

1. 加减法简算

【例题】

例 1 计算下面各题

$$(1) \frac{1}{7} + \frac{3}{7} + \frac{4}{7} + \frac{6}{7}$$

$$(2) 6\frac{4}{9} + 7\frac{2}{5} + 2\frac{5}{9}$$

$$(3) 6\frac{1}{6} - 2\frac{4}{7}$$

$$(4) 15 - 2\frac{7}{9} - 3\frac{2}{9}$$

$$(5) 15\frac{4}{25} + 3\frac{1}{4} + 2\frac{3}{4} + 4\frac{21}{25}$$

解：

$$(1) \frac{1}{7} + \frac{3}{7} + \frac{4}{7} + \frac{6}{7}$$

$$= 4 \div 2$$

$$= 2$$

$$(2) 6\frac{4}{9} + 7\frac{2}{5} + 2\frac{5}{9}$$

$$= (6\frac{4}{9} + 2\frac{5}{9}) + 7\frac{2}{5}$$

$$= 8 + 7\frac{2}{5}$$

$$= 15\frac{2}{5}$$

$$(3) 6\frac{1}{6} - 2\frac{4}{7}$$

$$= 6 - 2\frac{4}{7} + \frac{1}{6}$$

$$= 3\frac{3}{7} + \frac{1}{6}$$

$$= 3\frac{25}{42}$$

$$\begin{aligned}
 (4) & 15 - 2\frac{7}{9} - 3\frac{2}{9} \\
 & = 15 - (2\frac{7}{9} + 3\frac{2}{9}) \\
 & = 15 - 6 \\
 & = 9
 \end{aligned}$$

$$\begin{aligned}
 (5) & 15\frac{4}{25} + 3\frac{1}{4} + 2\frac{3}{4} + 4\frac{21}{25} \\
 & = (15\frac{4}{25} + 4\frac{21}{25}) + (3\frac{1}{4} + 2\frac{3}{4}) \\
 & = 20 + 6 \\
 & = 26
 \end{aligned}$$

例 2 用简便方法计算下面各题.

$$(1) 8\frac{8}{9} - (\frac{24}{25} + 7\frac{8}{9})$$

$$(2) 28\frac{29}{36} - (16\frac{11}{36} - 4\frac{1}{2})$$

$$(3) \frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56}$$

解：

$$(1) 8\frac{8}{9} - (\frac{24}{25} + 7\frac{8}{9})$$

$$= 8\frac{8}{9} - 7\frac{8}{9} - \frac{24}{25}$$

$$= 1 - \frac{24}{25}$$

$$= \frac{1}{25}$$

$$(2) 28\frac{29}{36} - (16\frac{11}{36} - 4\frac{1}{2})$$

$$= 28\frac{29}{36} - 16\frac{11}{36} + 4\frac{1}{2}$$

$$= 12\frac{1}{2} + 4\frac{1}{2}$$

$$= 17$$

$$(3) \frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56}$$

计算第(3)题，用常规的方法，先通分再计算是很麻烦的，这就要寻求另一种解题途径.我们从下面的计算中得到启发.

$$\frac{1}{2} - \frac{1}{3} = \frac{1 \times 3}{2 \times 3} - \frac{1 \times 2}{2 \times 2} = \frac{3-2}{2 \times 3} = \frac{1}{6}$$

$$\frac{1}{3} - \frac{1}{4} = \frac{1 \times 4}{3 \times 4} - \frac{1 \times 3}{4 \times 3} = \frac{4-3}{3 \times 4} = \frac{1}{12}$$

$$\frac{1}{4} - \frac{1}{5} = \frac{1 \times 5}{4 \times 5} - \frac{1 \times 4}{4 \times 5} = \frac{5-4}{4 \times 5} = \frac{1}{20}$$

M M M M

可以得出： $\frac{1}{6} = \frac{1}{2} - \frac{1}{3}$

$$\frac{1}{12} = \frac{1}{3} - \frac{1}{4}$$

$$\frac{1}{20} = \frac{1}{4} - \frac{1}{5}$$

所以， $\frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56}$

$$= \frac{1}{2} - \frac{1}{3} + \frac{1}{3} - \frac{1}{4} + \frac{1}{4} - \frac{1}{5} + \frac{1}{5} - \frac{1}{6} + \frac{1}{6} - \frac{1}{7} + \frac{1}{7} - \frac{1}{8}$$

$$= \frac{1}{2} - \frac{1}{8}$$

$$= \frac{3}{8}$$

因此，计算这类题的关键是把原式中的每一个分数转化成分数减法的形式，再计算。

【练习】

1. 用简便方法计算下面各题，并写出根据什么运算定律。

(1) $48 + 65 + 52$

(2) $21 + 48 + 79$

(3) $461 - 115 - 85$

(4) $45 + 267 + 33$

2. 直接写得数。

(1) $6\frac{1}{8} + 10$

$5\frac{3}{7} + 5$

$5\frac{5}{8} + 11$

(2) $2\frac{4}{5} + 1\frac{1}{5}$

$3\frac{4}{9} + 4\frac{5}{9}$

$1\frac{4}{7} + 3\frac{3}{7}$

(3) $8\frac{3}{5} + () = 9$

$2\frac{2}{3} + () = 4$

$5\frac{5}{12} + () = 6$

$7\frac{7}{9} + () = 8$

3. 简算。

$$5\frac{3}{8} + 6\frac{3}{7} + 7\frac{4}{7}$$

$$6\frac{5}{7} + 5\frac{2}{7} + 9\frac{3}{8}$$

$$5\frac{3}{4} + 10\frac{1}{8} + 2\frac{1}{4}$$

$$28\frac{7}{15} + 63\frac{1}{2} + 31\frac{8}{15}$$

$$8\frac{2}{15} + 7\frac{3}{5} + 14\frac{13}{15}$$

$$9\frac{7}{8} + 6\frac{4}{5} + 5\frac{1}{5}$$

$$7\frac{7}{8} + 5\frac{7}{10} + 4\frac{3}{10}$$

$$10\frac{3}{7} + 6\frac{1}{5} + 5\frac{4}{7}$$

$$27\frac{7}{12} + 16\frac{7}{15} + 2\frac{8}{15}$$

$$6\frac{1}{5} - (1\frac{1}{5} - \frac{4}{9})$$

$$\frac{4}{9} + \frac{3}{10} + \frac{5}{9} + \frac{7}{10}$$

$$26\frac{4}{15} - 3\frac{7}{9} - 2\frac{2}{9}$$

$$4 - \frac{3}{16} - 1\frac{7}{24}$$

$$14\frac{5}{9} - 5\frac{1}{2} + 5\frac{4}{9}$$

$$8\frac{4}{5} - 3\frac{7}{12} - 3\frac{5}{12}$$

$$4\frac{1}{3} + 3\frac{2}{5} + 8\frac{3}{5} + 6\frac{2}{3}$$

$$10\frac{3}{4} - (5\frac{4}{9} - 2\frac{1}{4})$$

4. 选择适当的简算方法计算下面各题.

$$\frac{1}{4} + \frac{3}{5} + 2\frac{1}{5} + \frac{3}{4}$$

$$32\frac{29}{36} - (15\frac{11}{36} - 4\frac{1}{2})$$

$$(7\frac{5}{18} + 5\frac{4}{11} + 3\frac{4}{9}) - 2\frac{4}{11}$$

$$(\frac{7}{12} + 3\frac{7}{24} + \frac{15}{31}) + 4\frac{16}{31}$$

$$\frac{69}{100} + 5\frac{7}{10} - 2\frac{3}{10}$$

$$10\frac{3}{4} - (5\frac{3}{4} - 2\frac{1}{2})$$

$$9\frac{4}{5} - (6\frac{2}{3} + \frac{4}{5})$$

$$2\frac{14}{25} + (5\frac{6}{7} - 1\frac{14}{25})$$

$$(16\frac{3}{4} + 5\frac{1}{2}) - 4\frac{1}{4}$$

$$12\frac{4}{5} - (4\frac{1}{5} - 4\frac{3}{10})$$

$$15\frac{1}{3} + 2\frac{5}{11} - 5\frac{1}{3}$$

$$46\frac{8}{15} + 5\frac{1}{12} + 4\frac{1}{12} - 36\frac{8}{15}$$

$$7\frac{1}{8} - 5\frac{3}{4} + 8\frac{5}{8}$$

5. 不用通分计算出结果(写计算过程).

$$\frac{1}{7} + \frac{2}{7} + \frac{3}{7} + \frac{4}{7} + \frac{5}{7} + \frac{6}{7}$$

$$\frac{1}{15} + \frac{2}{15} + \frac{4}{15} + \frac{7}{15} + \frac{8}{15} + \frac{11}{15} + \frac{13}{15} + \frac{14}{15}$$

$$*\frac{1}{401} + \frac{2}{401} + \frac{3}{401} + \Lambda + \frac{400}{401}$$

$$*\frac{1}{2} + \frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56} + \frac{1}{72} + \frac{1}{90}$$

$$*\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} + \frac{1}{64} + \frac{1}{128}$$

【例题】

例3 计算下面各题.

$$(1) \frac{1}{200} + \frac{2}{200} + \frac{3}{200} + \Lambda + \frac{199}{200}$$

$$(2) \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} + \frac{1}{64} + \frac{1}{128} + \frac{1}{256}$$

$$(3) \frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \Lambda + \frac{1}{9 \times 10}$$

分析：第(1)题是同分母分数相加，通常方法，把分子相加的和作为分子，分母不变，但是由于题目的分子是199个连续自然数的和，可以利用简便方法求出分子。

第(2)题直接通过计算十分麻烦，根据题目中分母都是2的乘方，即第二个加数的分母是第一个加数分母的2倍，第三个分数的分母是第二个加数分母的2倍，每后面一个加数的分母都是前面相邻的一个加数的分母的2倍，因此可得出规律计算出结果。

第(3)题，可以看出，各个加数的分子都是1，分母是相邻的两个自然数的乘积。我们可以把每个加数转化为 $\frac{1}{1 \times 2} = \frac{1}{2} - \frac{1}{2} = 1 - \frac{1}{2} \wedge \frac{1}{9 \times 10} = \frac{1}{90} - \frac{1}{90} = \frac{1}{9} - \frac{1}{10}$ 的形式。

解：

$$(1) \frac{1}{200} + \frac{2}{200} + \frac{3}{200} + \Lambda + \frac{199}{200}$$

$$= \frac{1+2+3+\Lambda+199}{200}$$

$$= \frac{(1+199) \times 199 \div 2}{200}$$

$$= \frac{19900}{200}$$

$$= 99\frac{1}{2}$$

$$(2) \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} + \frac{1}{64} + \frac{1}{128} + \frac{1}{256}$$

$$= (1 - \frac{1}{2}) + (\frac{1}{2} - \frac{1}{4}) + (\frac{1}{4} - \frac{1}{8}) + (\frac{1}{8} - \frac{1}{16})$$

$$+ (\frac{1}{16} - \frac{1}{32}) + (\frac{1}{32} - \frac{1}{64}) + (\frac{1}{64} - \frac{1}{128}) + (\frac{1}{128} - \frac{1}{256})$$

$$= 1 - \frac{1}{256} = \frac{255}{256}$$

$$\begin{aligned}
 (3) & \frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \Lambda + \frac{1}{9 \times 10} \\
 &= 1 - \frac{1}{2} + \frac{1}{2} - \frac{1}{3} + \frac{1}{3} - \frac{1}{4} + \Lambda + \frac{1}{9} - \frac{1}{10} \\
 &= 1 - \frac{1}{10} \\
 &= \frac{9}{10}
 \end{aligned}$$

【练习】

6. 下面各题你能用简便方法计算吗？

$$(1) 1 - \frac{1}{2} - \frac{1}{4} - \frac{1}{8} - \frac{1}{16} - \frac{1}{32} - \frac{1}{64}$$

$$(2) \frac{1}{6 \times 7} + \frac{1}{7 \times 8} + \frac{1}{8 \times 9} + \frac{1}{9 \times 10} + \frac{1}{10 \times 11} + \frac{1}{11 \times 12}$$

$$*(3) \frac{5}{12 \times 13} + \frac{5}{13 \times 14} + \frac{5}{14 \times 15} + \frac{5}{15 \times 16} + \frac{5}{16 \times 17} + \frac{5}{17 \times 18}$$

$$*(4) \frac{3}{2 \times 5} + \frac{3}{5 \times 8} + \frac{3}{8 \times 11} + \frac{3}{11 \times 14} + \frac{3}{14 \times 17} + \frac{3}{17 \times 20}$$

2. 乘除法简算

(1) 乘法简算

【例题】

例 1 计算下面各题.

$$(1) 56 \times 1\frac{5}{8}$$

$$(2) 333\frac{1}{3} \times 3$$

$$(3) (\frac{1}{3} \times \frac{1}{8}) \times (3 \times 8)$$

$$(4) 64 \times (\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{32})$$

$$(5) 6\frac{3}{4} \times \frac{2}{5} + 6\frac{3}{4} \times \frac{3}{5}$$

解：

$$(1) 56 \times 1\frac{5}{8}$$

$$= 56 \times (1 + \frac{1}{8})$$

$$= 56 \times 1 + 56 \times \frac{5}{8}$$

$$= 56 + 35$$

$$= 91$$

$$\begin{aligned}
 (2) \quad & 333\frac{1}{3} \times 3 \\
 &= (333 + \frac{1}{3}) \times 3 \\
 &= 333 \times 3 + \frac{1}{3} \times 3 \\
 &= 999 + 1 \\
 &= 1000
 \end{aligned}$$

$$\begin{aligned}
 (3) \quad & (\frac{1}{3} \times \frac{1}{8}) \times (3 \times 8) \\
 &= (\frac{1}{3} \times 3) \times (\frac{1}{8} \times 8) \\
 &= 1 \times 1 \\
 &= 1
 \end{aligned}$$

$$\begin{aligned}
 (4) \quad & 64 \times (\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{32}) \\
 &= 64 \times \frac{1}{2} + 64 \times \frac{1}{4} + 64 \times \frac{1}{8} + 64 \times \frac{1}{32} \\
 &= 32 + 16 + 8 + 2 \\
 &= 58
 \end{aligned}$$

$$\begin{aligned}
 (5) \quad & 6\frac{3}{4} \times \frac{2}{5} + 6\frac{3}{4} \times \frac{3}{5} \\
 &= 6\frac{3}{4} \times (\frac{2}{5} + \frac{3}{5}) \\
 &= 6\frac{3}{4} \times 1 \\
 &= 6\frac{3}{4}
 \end{aligned}$$

例2 计算.

$$(1) (1 + \frac{1}{3} + \frac{1}{4} + \frac{1}{5}) \times (\frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6}) - (1 + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6}) \times (\frac{1}{3} + \frac{1}{4} + \frac{1}{5})$$

$$(2) \frac{1}{2} + \frac{2}{2 \times 3} + \frac{3}{2 \times 3 \times 4} + \frac{4}{2 \times 3 \times 4 \times 5}$$

分析：第(1)题把被减数中的一个因数 $(1 + \frac{1}{3} + \frac{1}{4} + \frac{1}{5})$ 看作 $1 + (\frac{1}{3} + \frac{1}{4} + \frac{1}{5})$ ，把减数中一个因数 $(1 + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6})$ 看作 $1 + (\frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6})$ ，再利用乘法分配律进行计算，就很简便了。

在第(2)题中, 分数 $\frac{2}{2 \times 3}$ 、 $\frac{3}{2 \times 3 \times 4}$ 和 $\frac{4}{2 \times 3 \times 4 \times 5}$ 可以转化为 $(\frac{1}{2} - \frac{1}{2 \times 3})$, $(\frac{1}{2 \times 3} - \frac{1}{2 \times 3 \times 4})$, $(\frac{1}{2 \times 3 \times 4} - \frac{1}{2 \times 3 \times 4 \times 5})$ 的形式. 这样除了 $(1 - \frac{1}{2 \times 3 \times 4 \times 5})$ 外, 其余互相抵消.

解:

$$\begin{aligned}
 (1) & (1 + \frac{1}{3} + \frac{1}{4} + \frac{1}{5}) \times (\frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6}) - (1 + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6}) \times (\frac{1}{3} + \frac{1}{4} + \frac{1}{5}) \\
 &= [1 + (\frac{1}{3} + \frac{1}{4} + \frac{1}{5})] \times (\frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6}) - [1 + (\frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6})] \times (\frac{1}{3} + \frac{1}{4} + \frac{1}{5}) \\
 &= (\frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6}) + (\frac{1}{3} + \frac{1}{4} + \frac{1}{5}) \times (\frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6}) - (\frac{1}{3} + \frac{1}{4} + \frac{1}{5}) \\
 &\quad - (\frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6}) \times (\frac{1}{3} + \frac{1}{4} + \frac{1}{5}) \\
 &= \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6} - \frac{1}{3} - \frac{1}{4} - \frac{1}{5} \\
 &= \frac{1}{6}
 \end{aligned}$$

$$\begin{aligned}
 (2) & \frac{1}{2} + \frac{2}{2 \times 3} + \frac{2}{2 \times 3 \times 4} + \frac{4}{2 \times 3 \times 4 \times 5} \\
 &= \frac{1}{2} + (\frac{1}{2} - \frac{1}{2 \times 3}) + (\frac{1}{2 \times 3} - \frac{1}{2 \times 3 \times 4}) + (\frac{1}{2 \times 3 \times 4} - \frac{1}{2 \times 3 \times 4 \times 5}) \\
 &= 1 - \frac{1}{2 \times 3 \times 4 \times 5} = \frac{119}{120}
 \end{aligned}$$

【练习】

7. 用简便方法计算下面各题.

- | | |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| (1) $16\frac{7}{9} \times 3$ | (2) $54 \times (\frac{1}{6} + \frac{1}{9})$ |
| (3) $125 \times \frac{5}{12} \times 8 \times 1\frac{4}{5}$ | (4) $1\frac{5}{21} \times \frac{3}{4} + \frac{3}{4} \times 2\frac{16}{21}$ |
| (5) $\frac{1}{80} \times (26\frac{3}{7} \times 80)$ | (6) $\frac{1}{25} \times \frac{1}{25} \times 3\frac{1}{20} \times 75$ |
| (7) $7\frac{5}{6} \times 6$ | (8) $13 \times 3\frac{2}{5} \times \frac{1}{13} \times \frac{5}{17}$ |
| (9) $21\frac{1}{10} \times 5$ | (10) $25 \times 4\frac{1}{6}$ |
| (11) $5\frac{3}{4} \times 5\frac{1}{4}$ | (12) $6\frac{3}{5} \times 6\frac{2}{5}$ |
| (13) $1 \times 4\frac{3}{5} - 1 \times 4\frac{3}{5}$ | (14) $2 + \frac{2}{9} \times 2 + \frac{2}{9}$ |
| (15) $1\frac{1}{3} \times \frac{5}{9} \times \frac{3}{4} \times \frac{9}{10}$ | (16) $2\frac{2}{3} \times \frac{1}{5} \times \frac{3}{4} \times 10$ |

$$(17) 25 \frac{5}{13} \times \frac{5}{24} - 17 \frac{5}{13} \times \frac{5}{24}$$

$$(18) 5 \frac{1}{4} - 2 \frac{1}{6} - 1 \frac{1}{6}$$

$$(19) 12 \frac{1}{5} \times 45 + 12 \frac{1}{5} \times 55$$

$$(20) 4 \frac{2}{11} \times 5 \frac{3}{8} - 4 \frac{2}{11} \times 4 \frac{3}{8}$$

$$(21) (\frac{23}{66} + \frac{23}{55}) \times \frac{11}{23}$$

$$(22) 5 \frac{2}{9} \times 3 \frac{1}{4} + 5 \frac{2}{9} \times 2 \frac{3}{4}$$

$$(23) 4 \frac{1}{7} \times 2 \frac{1}{8} + 2 \frac{6}{7} \times 2 \frac{1}{8}$$

$$(24) 1 \times \frac{1}{3} + 2 \times \frac{2}{5} + 3 \times \frac{3}{14} + 1 \times \frac{2}{3} + 2 \times \frac{3}{5} + 3 \times \frac{11}{14}$$

$$*(25) \frac{1}{15} + \frac{2}{15} + \frac{3}{15} + \frac{4}{15} + \Lambda + \frac{14}{15}$$

$$*(26) \frac{1}{8} + \frac{2}{8} + \frac{3}{8} + \frac{4}{8} + \Lambda + \frac{7}{8}$$

$$*(27) \frac{1}{19} + \frac{3}{19} + \frac{5}{19} + \frac{7}{19} + \Lambda + \frac{17}{19}$$

$$*(28) 1 - \frac{1}{3} - \frac{1}{6} - \frac{1}{12} - \frac{1}{24} - \frac{1}{48}$$

$$*(29) 1 \frac{1}{2} \times 1 \frac{1}{3} \times 1 \frac{1}{4} \times 1 \frac{1}{5} \times \Lambda \times 1 \frac{1}{100}$$

$$*(30) 1993 \times (1 - \frac{1}{2}) \times (1 - \frac{1}{3}) \times (1 - \frac{1}{4}) \times \Lambda \times (1 - \frac{1}{1993})$$

(2) 除法简算

【例题】

例 1 计算.

$$(1) 3 \frac{4}{9} \div 1 \frac{4}{5} + 5 \frac{5}{9} \div 1 \frac{4}{5}$$

$$(2) 5 \frac{2}{7} \div \frac{3}{20} - 2 \frac{2}{7} \div \frac{3}{20}$$

$$(3) 1 \div \frac{1}{2} \div \frac{2}{3} \div \frac{3}{4} \div \frac{4}{5} \div \frac{5}{6}$$

解：

$$\begin{aligned}
 (1) & 3\frac{4}{9} \div 1\frac{4}{5} + 5\frac{5}{9} \div 1\frac{4}{5} \\
 &= (3\frac{4}{9} + 5\frac{5}{9}) \div 1\frac{4}{5} \\
 &= 9 \div 1\frac{4}{5}
 \end{aligned}$$

=5

$$\begin{aligned}
 (2) & 5\frac{2}{7} \div \frac{3}{20} - 2\frac{2}{7} \div \frac{3}{20} \\
 &= (5\frac{2}{7} - 2\frac{2}{7}) \div \frac{3}{20} \\
 &= 3 \div \frac{3}{20}
 \end{aligned}$$

=20

$$\begin{aligned}
 (3) & 1 \div \frac{1}{2} \div \frac{2}{3} \div \frac{3}{4} \div \frac{4}{5} \div \frac{5}{6} \\
 &= 1 \times \frac{2}{1} \times \frac{3}{2} \times \frac{4}{3} \times \frac{5}{4} \times \frac{6}{5}
 \end{aligned}$$

=6

【练习】

8. 简算.

$$(1) 39\frac{13}{15} \div 15$$

$$(2) 1\frac{2}{3} \div 5 + 5 \div 1\frac{2}{3}$$

$$(3) (26 + \frac{26}{53}) \div 13$$

$$(4) 27 \div 200 - 18 \times \frac{1}{200}$$

$$(5) 4\frac{7}{20} \div \frac{5}{7} + 8\frac{3}{5} \times 4\frac{7}{20}$$

$$(6) \frac{5}{7} \div 6 + \frac{5}{7} \div 1\frac{1}{5}$$

$$(7) 5\frac{1}{10} \div 30 - 4\frac{4}{5} \div 30$$

$$(8) 10\frac{12}{13} - (3\frac{12}{13} - 5\frac{5}{6})$$

$$(9) 8\frac{4}{5} \times (\frac{4}{11} + \frac{5}{8})$$

$$(10) 6\frac{17}{20} \times \frac{3}{4} + 6\frac{17}{20} \div 4$$

$$(11) 24 \times (\frac{1}{2} - \frac{1}{3} + \frac{5}{12})$$

$$(12) 0.125 \times \frac{2}{9} \times 8$$

$$(13) (5\frac{5}{6} - 4\frac{1}{12}) \div 1\frac{1}{6}$$

$$*(14) 1 - (\frac{1}{4} - \frac{1}{8}) - (\frac{1}{8} - \frac{1}{16}) - (\frac{1}{16} - \frac{1}{32})$$

$$*(15) \frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \Lambda + \frac{1}{1997 \times 1998}$$

3. 四则混合运算

【例题】

例1 简算.

$$(1) \left(\frac{1}{3} + \frac{1}{4}\right) \div \left(1 - \frac{1}{3} + \frac{1}{4}\right)$$

$$(2) \frac{5}{23} \times 24$$

$$(3) \left(\frac{1}{24} + \frac{3}{133}\right) \times 12 + 97 \times \frac{1}{133}$$

$$(4) \frac{1342 + 1653 \times 1341}{1342 \times 1653 - 311}$$

解:

$$(1) \left(\frac{1}{3} + \frac{1}{4}\right) \div \left(1 - \frac{1}{3} + \frac{1}{4}\right)$$

$$= \left[\left(\frac{1}{3} + \frac{1}{4}\right) \times 12\right] \div \left[\left(1 - \frac{1}{3} + \frac{1}{4}\right) \times 12\right]$$

$$= [4 + 3] \div [12 - 4 + 3]$$

$$= 7 \div 11$$

$$= \frac{7}{11}$$

$$(2) \frac{5}{23} \times 24$$

$$= \frac{5}{23} \times 23 + \frac{5}{23} \times 1 = 5\frac{5}{23}$$

$$(3) \left(\frac{1}{24} + \frac{3}{133}\right) \times 12 + 97 \times \frac{1}{133}$$

$$= \frac{12}{24} + \frac{36}{133} + \frac{97}{133}$$

$$= \frac{1}{2} + \left(\frac{36}{133} + \frac{97}{133}\right)$$

$$= \frac{1}{2} + 1$$

$$= 1\frac{1}{2}$$

$$(4) \frac{1342 + 1653 \times 1341}{1342 \times 1653 - 311}$$

$$= \frac{1342 + 1653 \times 1341}{1653 \times (1341 + 1) - 311}$$

$$= \frac{1342 + 1653 \times 1341}{1653 \times 1653 + 1653 - 311}$$

$$= \frac{1342 + 1653 \times 1341}{1342 + 1653 \times 1341}$$

$$= 1$$

例2 计算下面各题.

$$(1) \frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \Lambda + \frac{1}{90 \times 91}$$

$$(2) \frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \Lambda + \frac{2}{132}$$

$$(3) \frac{1}{3 \times 5} + \frac{1}{5 \times 7} + \frac{1}{7 \times 9} + \Lambda + \frac{1}{61 \times 63}$$

分析：第(1)题根据每个加数的特点，找出规律就可使计算简便。

$$\text{因为 } \frac{1}{1 \times 2} = \frac{2-1}{1 \times 2} = 1 - \frac{1}{2}$$

$$\frac{1}{2 \times 3} = \frac{3-2}{2 \times 3} = \frac{1}{2} - \frac{1}{3}$$

$$\frac{1}{3 \times 4} = \frac{4-3}{3 \times 4} = \frac{1}{3} - \frac{1}{4}$$

$$\text{可知：} \frac{1}{n \times (n+1)} = \frac{1}{n} - \frac{1}{n+1}$$

根据这个规律，我们将每个加数转化成两项，就可得到数字相同，符号相反的加数。这样计算起来比较简便。

解：

$$\begin{aligned} (1) & \frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \Lambda + \frac{1}{90 \times 91} \\ &= \left(1 - \frac{1}{2}\right) + \left(\frac{1}{2} - \frac{1}{3}\right) + \left(\frac{1}{3} - \frac{1}{4}\right) + \Lambda + \left(\frac{1}{90} - \frac{1}{91}\right) \\ &= 1 - \frac{1}{2} + \frac{1}{2} - \frac{1}{3} + \frac{1}{3} - \frac{1}{4} + \Lambda + \frac{1}{90} - \frac{1}{91} \\ &= 1 - \frac{1}{91} = \frac{90}{91} \end{aligned}$$

$$\begin{aligned} (2) & \frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \Lambda + \frac{2}{132} \\ &= \frac{1}{4 \times 5} + \frac{1}{5 \times 6} + \frac{1}{6 \times 7} + \Lambda + \frac{1}{11 \times 12} \\ &= \left(\frac{1}{4} - \frac{1}{5}\right) + \left(\frac{1}{5} - \frac{1}{6}\right) + \left(\frac{1}{6} - \frac{1}{7}\right) + \Lambda + \left(\frac{1}{11} - \frac{1}{12}\right) \\ &= \frac{1}{4} - \frac{1}{5} + \frac{1}{5} - \frac{1}{6} + \frac{1}{6} - \frac{1}{7} + \Lambda + \frac{1}{11} - \frac{1}{12} \\ &= \frac{1}{4} - \frac{1}{12} \\ &= \frac{1}{6} \end{aligned}$$

$$\begin{aligned}
(3) & \frac{1}{3 \times 5} + \frac{1}{5 \times 7} + \frac{1}{7 \times 9} + \Lambda + \frac{1}{61 \times 63} \\
&= \left(\frac{1}{3} - \frac{1}{5}\right) \times \frac{1}{2} + \left(\frac{1}{5} - \frac{1}{7}\right) \times \frac{1}{2} + \left(\frac{1}{7} - \frac{1}{9}\right) \times \frac{1}{2} + \Lambda + \left(\frac{1}{61} - \frac{1}{63}\right) \times \frac{1}{2} \\
&= \frac{1}{2} \times \left(\frac{1}{3} - \frac{1}{63}\right) \\
&= \frac{1}{2} \times \frac{20}{63} \\
&= \frac{10}{63}
\end{aligned}$$

例 3 用简便方法计算下面各题.

$$\begin{aligned}
(1) & \left(15\frac{1}{4} \times 1\frac{3}{5} + 1\frac{3}{5}\right) \div 16\frac{1}{4} \div \frac{5}{8} \\
(2) & \frac{1}{65} + \frac{2}{65} + \frac{3}{65} + \Lambda + \frac{10}{65} + \frac{11}{165} + \frac{12}{165} + \frac{13}{165} + \Lambda + \frac{20}{165} \\
(3) & 5\frac{9}{10} + 5\frac{99}{100} + 5\frac{999}{1000} + 5\frac{9999}{10000} + 5\frac{99999}{100000}
\end{aligned}$$

分析：第(2)题先将同分母分数相加，然后用连续自然数等差数列的求和公式，计算出得数.

第(3)题，根据每个分数中分母的特点，先把每个分数化成小数，再按照小数方法计算就比较简便了.

解：

$$\begin{aligned}
(1) & \left(15\frac{1}{4} \times 1\frac{3}{5} + 1\frac{3}{5}\right) \div 16\frac{1}{4} \div \frac{5}{8} \\
&= \left[1\frac{3}{5} \times \left(15\frac{1}{4} + 1\right)\right] \div 16\frac{1}{4} \div \frac{5}{8} \\
&= \left[1\frac{3}{5} \times 16\frac{1}{4}\right] \div 16\frac{1}{4} \div \frac{5}{8} \\
&= \left(16\frac{1}{4} \div 16\frac{1}{4}\right) \times 1\frac{3}{5} \div \frac{5}{8} \\
&= \frac{8}{5} \times \frac{8}{5} = 2\frac{14}{25} \\
(2) & \frac{1}{65} + \frac{2}{65} + \frac{3}{65} + \Lambda + \frac{10}{65} + \frac{11}{165} + \frac{12}{165} + \frac{13}{165} + \Lambda + \frac{20}{165} \\
&= \frac{1+2+3+\Lambda+10}{65} + \frac{11+12+13+\Lambda+20}{165} \\
&= \frac{(1+10) \times 5}{65} + \frac{(11+20) \times 5}{165} \\
&= \frac{55}{65} + \frac{155}{165} \\
&= 1\frac{79}{143}
\end{aligned}$$

$$\begin{aligned}
 (3) & 5\frac{9}{10} + 5\frac{99}{100} + 5\frac{999}{1000} + 5\frac{9999}{10000} + 5\frac{99999}{100000} \\
 & = 5.9 + 5.99 + 5.999 + 5.9999 + 5.99999 \\
 & = 29.88889
 \end{aligned}$$

【练习】

9. 看谁算得又对又快.

$$(1) (\frac{3}{10} + \frac{7}{45}) \times 90$$

$$(2) (\frac{5}{8} - \frac{7}{12}) \div \frac{1}{24}$$

$$(3) (2\frac{3}{4} + 8\frac{4}{5}) \div 1\frac{1}{10}$$

$$(4) (4\frac{3}{8} - \frac{7}{10}) \div \frac{7}{16}$$

$$(5) (\frac{15}{54} + 1\frac{4}{9} - \frac{15}{54}) \times \frac{9}{13}$$

$$(6) 1\frac{5}{6} + (\frac{1}{2} - \frac{1}{3}) \times 12$$

10. 用简便算法计算下列各题.

$$(1) 1\frac{6}{7} \times (\frac{5}{9} - \frac{3}{13} + \frac{4}{9})$$

$$(2) 9\frac{10}{13} - 3 \div 1\frac{3}{10} - \frac{10}{13} \times 5$$

$$(3) 7\frac{7}{15} + 3\frac{10}{21} + 2\frac{8}{15} - 3\frac{3}{8}$$

$$(4) 10\frac{11}{21} - 4\frac{5}{8} - 2\frac{8}{21} - 3\frac{3}{8}$$

$$(5) 3\frac{3}{5} \times 5 \div 19 - \frac{3}{19} \times 3$$

$$(6) 9009 \div (\frac{1}{2} + \frac{1}{3} + \frac{1}{6}) + 9009 \times 999$$

$$(7) 999\frac{7}{9} + 99\frac{1}{3} - 9\frac{1}{3} - \frac{7}{9}$$

$$(8) 2\frac{1}{10} + 2\frac{11}{100} + 2\frac{111}{1000} + 2\frac{1111}{10000} + 2\frac{11111}{100000}$$

$$(9) \frac{9}{80} \times 81$$

$$(10) \frac{299}{300} \times 201$$

$$(11) (\frac{1}{4} + \frac{1}{6}) \div (1 - \frac{1}{4} \times \frac{1}{6})$$

$$*(12) (2 + \frac{3}{4} \times 1) + (2 + \frac{3}{4} \times 2) + (2 + \frac{3}{4} \times 3) + \Lambda + (2 + \frac{3}{4} \times 11)$$

$$*(13) \frac{1}{2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \frac{1}{4 \times 5} + \Lambda + \frac{1}{2000 \times 2001}$$

$$*(14) 1 - \frac{1}{2} - \frac{1}{4} - \frac{1}{8} - \frac{1}{16} - \frac{1}{32} - \frac{1}{128} - \frac{1}{256} - \frac{1}{512} - \frac{1}{1024} - \frac{1}{2048}$$

$$*(15) 1 - \frac{1}{2} - \frac{2}{2 \times 3} - \frac{3}{2 \times 3 \times 4} - \frac{4}{2 \times 3 \times 4 \times 5} - \frac{5}{2 \times 3 \times 4 \times 5 \times 6}$$

$$*(16) 1 - \frac{1}{3 \times 5} - \frac{1}{5 \times 7} - \frac{1}{7 \times 9} - \frac{1}{9 \times 11} - \frac{1}{11 \times 13}$$

$$*(17) 1 - \frac{1}{1+2} - \frac{1}{1+2+3} - \Lambda - \frac{1}{1+2+3+\Lambda+20}$$

六、整、小、分数四则混合运算

在整、小、分四则混合运算中，要根据题目的实际情况，灵活地运用算法。在分数、小数加减混合运算时，一般把分数化成小数进行计算比较简便。进行分数、小数乘除混合运算时，一般把小数化成分数计算，这样就可以约分，使运算简便。既可节省时间，又能提高准确率。

【例题】

例 1 $106+96+110+99+97+109+93+103+95+98$

分析：根据题目中各加数都接近 100 这一特点，可以选用 100 做为标准数，10 个数先算成 10 个 100，再把每个数中少算的补上，多算的去掉。

解：原式 $=100 \times 10+(6-4+10-1-3+9-7+3-5-2)$
 $=1000+6$
 $=1006$

例 2 用简便方法计算下面各题。

(1) $(15\frac{1}{4} \times 1\frac{3}{5} + 1.6) \div (16.25 \div \frac{5}{8})$

(2) $(\frac{1}{26} \times 0.5 \times 2600 \times 3.14 \times 0.4) \div (50 \times 3.14 \times 0.8 \times 0.01)$

(3) $1\frac{1}{2} \times 1.5 \times 1.5 - 1.5 \times 1.5 \times \frac{1}{2}$

(4) $622.6 \times 1\frac{1}{2}$

解：

(1) $(15\frac{1}{4} \times 1\frac{3}{5} + 1.6) \div (16.25 \div \frac{5}{8})$
 $= (15.25 \times 1.6 + 1.6 \times 1) \div (16.25 \times \frac{8}{5})$

$= 1.6 \times (15.25 + 1) \div (16.25 \times 1.6)$

$= 1.6 \times 16.25 \div (16.25 \times 1.6)$

$= 1$

(2) $(\frac{1}{26} \times 0.5 \times 2600 \times 3.14 \times 0.4) \div (50 \times 3.14 \times 0.8 \times 0.01)$

$= (0.5 \times 100 \times 3.14 \times 0.4) \div (50 \times 3.14 \times 0.8 \times 0.01)$

$= (0.5 \times 50 \times 3.14 \times 0.8) \div (50 \times 3.14 \times 0.8 \times 0.01)$

$= 0.5 \div 0.01$

$= 50$

$$\begin{aligned}
 (3) & 1\frac{1}{2} \times 1.5 \times 1.5 - 1.5 \times 1.5 \times \frac{1}{2} \\
 & = 1.5 \times 1.5 \times 1.5 - 1.5 \times 1.5 \times 0.5 \\
 & = 1.5 \times 1.5 \times (1.5 - 0.5) \\
 & = 1.5 \times 1.5 \times 1 \\
 & = 2.25
 \end{aligned}$$

$$\begin{aligned}
 (4) & 662.6 \times 1\frac{1}{2} \\
 & = 622.6 \times 1.5 \\
 & = 622.6 + 622.6 \times 0.5
 \end{aligned}$$

$$\begin{aligned}
 & = 622.6 + 622.6 \div 2 \\
 & = 622.6 + 311.3 \\
 & = 933.9
 \end{aligned}$$

例 3 运用乘法运算定律“凑整”进行简算.

$$\begin{aligned}
 \text{解：原式} & = 102 \times 199 - 0.125 \times 199 \times 8 \\
 & = 102 \times 199 - 0.125 \times 8 \times 199 \\
 & = 102 \times 199 - 1 \times 199 \\
 & = 199 \times (102 - 1) \\
 & = 199 \times (100 + 1) \\
 & = 19900 + 199 \\
 & = 20099
 \end{aligned}$$

例 4 用运算定律和运算性质改变运算的顺序，可以使某些运算简便.

$$\begin{aligned}
 (1) & 31.9 + 476.4 + 68.2 - 206.4 \\
 (2) & 63476 - 3853 - 3167 + 36524 - 3678 - 6833 \\
 (3) & (64 \times 75 \times 81) \div (32 \times 25 \times 27)
 \end{aligned}$$

$$\begin{aligned}
 \text{解：(1)} & 31.9 + 476.4 + 68.2 - 206.4 \\
 & = (31.9 + 68.2) + (476.4 - 206.4) \\
 & = 100.1 + 270 \\
 & = 370.1
 \end{aligned}$$

$$\begin{aligned}
 (2) & 63476 - 3853 - 3167 + 36524 - 3678 - 6833 \\
 & = (63476 + 36524) - (3853 + 3678 + 3167 + 6833) \\
 & = 100000 - 17531 \\
 & = 82469
 \end{aligned}$$

$$\begin{aligned}
 (3) & (64 \times 75 \times 81) \div (32 \times 25 \times 27) \\
 & = (64 \div 32) \times (75 \div 25) \times (81 \div 27) \\
 & = 2 \times 3 \times 3 \\
 & = 18
 \end{aligned}$$

例 5 求 1 至 100 内所有不能被 5 或 9 整除的数之和是多少？

分析：在 1 至 100 内所有能被 5 整除的数是 5, 10, 15, ..., 100. 它们的和是 $5 \times (1 + 20) \times 20 \div 2 = 1050$. 在 1 至 100 内所有能被 9 整除的数是 9, 18, 27,, 99. 它们的和是 $9 \times (11 + 1) \times 11 \div 2 = 594$. 1 至 100 内所有能被 45 整除的数是 45, 90. 它们的和是 135. 由于能被 45 整除的数既能被 5 整除又能

被 9 整除. 所以 135 在 1050 和 594 中各计算了一次. 因此, 1 至 100 内所有不能被 5 或 9 整除的数之和就可以计算出来.

解: 根据上面的分析, 可以列出下面的算式:

$$\begin{aligned} & 1+2+3+\dots+100-1050-594+135 \\ & =101 \times 50-1050-594+135 \\ & =3541 \end{aligned}$$

例 6 两个十二位数 111111111111 和 999999999999 的乘积有几个数字是奇数?

$$\begin{aligned} \text{解: } & 111111111111 \times 999999999999 \\ & =111111111111 \times (1000000000000-1) \\ & =111111111111000000000000-111111111111 \\ & =11111111111108888888888889 \end{aligned}$$

通过计算可知道乘积中有 12 个数字是奇数.

$$\text{例 7 计算 } \left(1+\frac{1}{3}\right) \times \left(1+\frac{1}{9}\right) \times \left(1+\frac{1}{81}\right)$$

分析: 此题直接计算是比较麻烦的. 如果我们把原题改写成繁分数, 这样分子和分母都同时乘以 $(1-\frac{1}{3})$, 然后再计算就比较简便了.

解:

$$\begin{aligned} & \left(1+\frac{1}{3}\right) \times \left(1+\frac{1}{9}\right) \times \left(1+\frac{1}{81}\right) \\ & = \frac{\left(1-\frac{1}{3}\right) \times \left(1+\frac{1}{3}\right) \times \left(1+\frac{1}{9}\right) \times \left(1+\frac{1}{81}\right)}{\left(1-\frac{1}{3}\right)} \\ & = \frac{3}{2} \times \left(1-\frac{1}{9}\right) \times \left(1+\frac{1}{9}\right) \times \left(1+\frac{1}{81}\right) \\ & = \frac{3}{2} \times \left(1-\frac{1}{81}\right) \times \left(1+\frac{1}{81}\right) \\ & = \frac{3}{2} \times \left(1-\frac{1}{6561}\right) \\ & = \frac{3}{2} \times \frac{6560}{6561} \\ & = \frac{3280}{2187} = 1\frac{1093}{2187} \end{aligned}$$

例 8 利用平方差公式进行简便运算.

$$(1) 48 \times 48 - 32 \times 32$$

$$(2) 58 \times 42$$

$$(3) 578^2 - 577 \times 579$$

分析: 因为 $(a+b) \times (a-b)$

$$= a \times (a-b) + b \times (a-b)$$

$$= a^2 - ab + ab - b^2$$

$$= a^2 - b^2$$

反过来 $a^2-b^2=(a+b) \times (a-b)$ ，这就是平方差公式. 即两个数的平方差，等于这两个数的和乘以这两个数的差. 根据这个公式可以使一些运算简便. 第(1)、(2)和(3)题我们都能应用此公式进行简便计算.

解：(1) $48 \times 48 - 32 \times 32$
 $= (48+32) \times (48-32)$
 $= 80 \times 16$
 $= 1280$
 (2) 58×42
 $= (50+8) \times (50-8)$
 $= 50^2 - 8^2$
 $= 2500 - 64$
 $= 2436$
 (3) $578^2 - 577 \times 579$
 $= 578^2 - (578-1) \times (578+1)$
 $= 578^2 - 578^2 + 1$
 $= 1$

【练习】

1. 计算下面各题，能简算的要用简便方法计算.

(1) $8.8 \times (\frac{3}{11} + \frac{7}{8})$

(2) $12.5 \times \frac{5}{7} \times 0.08$

(3) $13.2 \times 2\frac{2}{5} - 8.2 \div \frac{5}{12}$

(4) $\frac{3}{4} \times 1.2 + 0.75 \times \frac{3}{10} - 0.5 \div 1\frac{1}{3}$

(5) $5.91 + 1\frac{3}{40} + \frac{9}{100} + 2.025$

(6) $8.6 \div (16\frac{1}{2} + 4.5 - 20) - 1.9 \times (7\frac{1}{4} - 4\frac{1}{8} - 3\frac{1}{8})$

(7) $8.2 + 0.8 \times (0.9 - 0.175)$

(8) $999\frac{7}{16} + 99\frac{1}{8} + 9\frac{1}{2} + \frac{7}{16}$

(9) $0.17 \times \frac{3}{4} - 11 \div 400$

(10) $60 \div \frac{1}{6} - 350 \times (1 - \frac{1}{3} - \frac{1}{4} - \frac{5}{12})$

(11) $(4.8 \times 0.78 \times 7.6) \div (2.6 \times 0.24 \times 1.9)$

- (12) $3\frac{1}{10} + 5.06 + 1\frac{9}{10}$
- (13) $4.38 + 1\frac{3}{8} + 5.62 + 1\frac{5}{8}$
- (14) $(75 \times 5\frac{3}{8} + 2\frac{5}{8} \times 75) \times 0.125$
- (15) $(0.897 \times \frac{5}{23} + 0.103 \times \frac{5}{23}) \times 5\frac{3}{4}$
- (16) $(\frac{8}{17} \times 4.13 + 4.13 \times \frac{9}{17}) \div 4\frac{3}{100}$
- (17) $1 \times \frac{1}{4} + 2 \times \frac{2}{7} + 3 \times \frac{2}{13} + 1 \times \frac{3}{4} + 2 \times \frac{5}{7} + 3 \times \frac{11}{13}$
- (18) $(22\frac{13}{35} + 7\frac{5}{17}) \times 6.5 + (9\frac{12}{17} + 10\frac{12}{35}) \times 6.5$
- (19) $0.8 \times 3.95 - \frac{2}{3} + 1.05 \div 1\frac{2}{5}$
- (20) $1\frac{1}{6} \times 8.4 - 3.45 \times 1\frac{2}{5}$
- (21) $4\frac{7}{8} + 3.08 \times 12.5 - 8\frac{3}{4}$
- (22) $6.8 - 3\frac{1}{3} + 0.5 \times \frac{3}{5}$
- (23) $5.85 \times 1\frac{1}{3} - 2.5 \div 4\frac{1}{6} + 3\frac{1}{4}$
- (24) $10\frac{4}{5} \times 5$
- (25) $6.7 + 1\frac{1}{2} + 3\frac{3}{10} + 8\frac{1}{2}$
- (26) $1\frac{7}{8} \times 2.4 - 2.4 \times 1\frac{1}{2}$
- (27) $(0.125 + \frac{3}{8}) \times 8$
- (28) $20\frac{11}{15} - (3\frac{1}{15} + 5\frac{7}{16})$
- (29) $22 \times 25 + 86 \times 2.5 - 0.43 \times 0.25$
- (30) $896 \times 170 - 763 \times 1.7$
- (31) $43250 \times 1500 + 90500 \times 0.015$
- (32) $54 + 37 + 71 + 46 + 163 + 129 + 256$
- (33) $26 + 17 + 51 + 72 + 61 + 52 + 58 + 79$
- (34) $117 \times 117 + 33 \times 117 - 33 \times 150$
- (35) $8.6 \times 2.2 + 6.7 \times 8.6 + 8.6 + 0.86$
- (36) $2 \div 2 + 0 \div 93 + 93 \times 1$
- (37) $70000 \div 125 \div 5 \div 2 \div 8$

- (38) $125 \times 2 \times 161 \times 8 \times 20$
 (39) $10000 \times 19 \div 125$
 (40) $1034 \div 28 + 1766 \div 28$
 (41) $38 \times 49 + 26 \times 49 + 64 \times 51$
 (42) $1328 \times 1339 - 839 \times 551 - 839 \times 777$
 (43) $7981 - (7364 - 2019)$
 (44) $8 \div 13 + 13 \div 9 + 12 \div 13 + 14 \div 9 + 6 \div 13$
 (45) $2.43 \times 14 + 14 \times 7.57 - 12.5 \times 1.39 \times 8$
 (46) $(7.5 \times 0.4257 - 0.5743 \times 2.5 + 5.743) \div 1.25$
 (47) $30.36 - 6.27 - 3.73$
 (48) $274 \div 7.6 \times 38$
 (49) $2.5 \times 64 \times 0.5 \times 125\%$
 (50) $(\frac{23}{99} + \frac{46}{77} + 2\frac{1}{11}) \times \frac{11}{23}$
 (51) $(\frac{1}{9} + \frac{1}{7}) + (\frac{8}{9} - \frac{12}{19}) - (\frac{1}{7} + \frac{7}{19})$
 (52) $0.734 \times 101 - 73.4$
 (53) $[110 - (5.6 + 1.1 \div 0.25)] \times 0.01 \div 0.125$
 (54) $1.75 \times 53.8 - 0.537 \times 75 - 53.7$
 (55) $5.87^2 + 4.13 \times 5.87$
 * (56) $8888 + 8888 - 8888 \times 8888 \div 8888$
 *(57) $1 + \frac{1}{2} + \frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{42} + \frac{1}{56}$
 (58) $3 + 6 + 12 + 24 + 48 + 96 + 192 + 384 + 768^*$
 (59) $(1 - \frac{1}{4}) \times (1 - \frac{1}{9}) \times (1 - \frac{1}{16}) \times (1 - \frac{1}{25}) \times (1 - \frac{1}{36}) \times (1 - \frac{1}{49}) \times (1 - \frac{1}{64})$
 *(60) $1\frac{1}{1 \times 6} + 2\frac{1}{6 \times 11} + 3\frac{1}{11 \times 16} + 4\frac{1}{16 \times 21} + 5\frac{1}{21 \times 26}$
2. 计算下面各题，能简算的要简算.
- (1) 88×125 (2) $7777 \times 6 + 1111 \times 58$
 (3) $460 - 97 + 540 + 97$ (4) $198528 \div 4 \div 2$
 (5) $465 - 167 - 22 - 11$ (6) 36×25
 (7) $623 \times 19 + 623$
 (8) $1795 \times 19 + 1795 \times 2 - 1795$
 (9) $18 + 198 + 1998 + 19998 + 199998$
 (10) $1997 - 1996 + 1995 - 1994 + 1993 - 1992$
 (11) $5600 \div 70 \div 80$
 (12) 求 $21 + 23 + 25 + \dots + 39$ 的和
 (13) $888 \times (99 + 19 + 7)$
 (14) $25 \times (977 + 972 + 971 + 976)$
 (15) $65 \times 128 + 174 \times 13 \times 5 - 16\frac{1}{4} \times 404$
 (16) $5 \div \frac{5}{6} - \frac{5}{6} \div 5 + \frac{5}{6} \times 3$

$$(17) 2\frac{14}{25} \times 173 - 2.56 \times 73$$

$$(18) \frac{1.75 \times 16 \times \frac{3}{4}}{0.3 \times 0.75 \times 0.6}$$

$$(19) 666 \times 199.9 + 445 \times 199.9$$

$$(20) 0.78 \times 2.4 \times 0.05 \div (4.8 \times 0.75 \times 2.6)$$

$$*(21) 444473\frac{3}{8} \times 890 + 890 \times 555526\frac{5}{8}$$

$$(22) 1997 \times 19961996 - 1996 \times 19971997$$

$$*(23) (1 - \frac{1}{25}) \times (1 - \frac{1}{36}) \times (1 - \frac{1}{49}) \times (1 - \frac{1}{64}) \times (1 - \frac{1}{81}) \times (1 - \frac{1}{100})$$

$$*(24) 2\frac{1}{3 \times 5} + 4\frac{1}{5 \times 8} + 6\frac{1}{8 \times 11} + 8\frac{1}{12 \times 15} + 10\frac{1}{15 \times 18}$$

$$*(25) \frac{1997}{1 \times 2} + \frac{1997}{2 \times 3} + \Lambda + \frac{1997}{1996 \times 1997}$$

$$*(26) \frac{1+2+3+4+5+6+7+8+7+6+5+4+3+2+1}{999999 \times 999999}$$

$$(27) \frac{6.9 \times 1.75 \times 0.2}{0.14 \times 2\frac{3}{10}}$$

$$(28) 8 - \frac{(2.3 + 5 \div 6.25) \times 7}{8 \times 0.0125 + 6.9}$$

$$(29) (\frac{1}{2.5-1} - \frac{1}{3\frac{1}{2}-1}) \div \frac{4}{15}$$

$$(30) (\frac{1+\frac{1}{2}}{1-\frac{1}{2}} - \frac{1-\frac{1}{2}}{1+\frac{1}{2}}) \div 2\frac{1}{2}$$

七、综合训练

A 卷

1. 直接写得数。

$263 + 97$

$83 + 98$

$79 + 198$

50×60

20×400

160×5

240×5

$600 \div 20$

$280 \div 14$

$9.2 + 1.8$

$0.25 + 0.75$

$12.3 + 0.7$

$10.8 - 1.8$

0.5×0.2

0.125×8

$7.2 \div 0.9$

$0.56 \div 0.28$

$10 \times \frac{4}{5}$

$4 \div \frac{1}{3}$

$1 \div \frac{3}{5}$

2. 判断对错，对的在括号内画“ ”，错的画“ × ”。

(1) 三个数相加，先把前两个数相加，再同第三个数相加；或者先把后两个数相加，再同第一个数相乘，它们的积不变。这叫做乘法结合律。 ()

(2) $623 - 199 = 623 - 200 - 1$ ()

(3) $329 \times 98 = 32902$ ()

(4) 两数相乘，其中一个因数扩大几倍，另一个因数缩小相同的倍数，积不变。 ()

(5) 乘法分配律可以写成 $(a + b)c = ac + bc$ 。 ()

3. 把正确答案前面的字母填在括号内。

(1) $359 + 268 + 147 = 359 + (\quad + 147)$ []

A. 253

B. 200

C. 268

(2) $4 \times 5 \times 3 = (\quad \times \quad) \times$ []

A. $(3 \times 4) \times 5$

B. $3 \times (4 \times 5)$

C. $4 \times (3 \times 5)$

(3) $789 - 297 = 789 -$ []

A. $789 - 300 - 3$

B. $789 - 300 + 3$

C. $789 - 290 - 7$

(4) $72345 \times 11 =$ []

A. 775785

B. 777795

C. 775795

(5) $394600000 \div 125 \div 4 \div 25 \div 8 =$ []

A. 3926

B. 3946

C. 3846

4. 选择适当的简便方法计算下面各题。

(1) $1324 + 398$

(2) $1746 + 2097$

(3) $98 + 3174$

(4) $5086 + 1698$

(5) $4329 - 399$

(6) $3654 - 1099$

(7) $2473 - 397$

(8) $5603 - 3001$

(9) $386 + 1096 + 214$

(10) $5023 + 198 + 397$

(11) 91×99

(12) 317×102

(13) 496×299

(14) 385×301

(15) 187×198

(16) 520×202

- (17) 79×101 (18) 407×97
 (19) 68×603 (20) 4321×599
 (21) 9816×101 (22) $(2400 + 1200) \div 6$
 (23) $485 \times 96 + 485 \times 5$ (24) $38 \times 1111 + 9999 \times 8$
 (25) $24 \times 172 - 12 \times 71 \times 2 - 24$
 (26) $62 \times 34 + 68 \times 24 + 10 \times 68$
 (27) $456 \times 789 \div 123 \div 456 \times 123 \div 789$
 (28) $890 \times 195 - 79 \times 890 - 890 \times 16$
 (29) $132 \div 4 + 165 \div 5 + 125 \div 5$
 (30) $414 \div 6 + 66 \div 6$ (31) $576 + 1998 + 94$
 (32) $6604 + 397 + 1798$ (33) $445 - 97 - 295$
 (34) $10000 - 7006 - 1994$ (35) $2.4 \times 9.6 + 0.24 \times 96$
 (36) $0.125 \times 2.5 \times 0.5 \times 64$
 (37) $(3.5 \times 7.5 \times 9.6) \div (2.5 \times 0.8 \times 1.5)$
 (38) $888888 \times 666666 \div 333333$
 (39) $50000 + 7777 - 7776 + 7778 - 7776$
 (40) $1999 + 1998 - 1997 - 1996 + 1995 + 1994 - 1993 - 1992 + 1991 + 1990$
 (41) $78888888 + 7888887 + 7888886 + 7888885 + 7888884 + 7888883$
 (42) $252525^2 - 252524 \times 252526$
 (43) $0.1 + 0.3 + 0.5 + 0.7 + 0.9 + 0.11 + 0.13 + \dots + 0.99$
 (44) $1.22 + 1.23 + 1.24 + 1.25 + \dots + 9.21$
 (45) $102 \times 99 - 0.125 \times 99 \times 8$
 (46) $8 \times 999 + 8 + 99 \times 3 + 3 + 2 \times 9 + 9$
 (47) $3333 \times 14 + 1111 \times 58$
 (48) $4 \times 4.8 \times 25 \times 12.5 \div (1.25 \times 0.4 \times 24 \times 250)$
 *(49) $(11 \times 9 + 11) \times (111 \times 999 + 111) \times (7 \times 11 \times 13 - 1000)$
 (50) $1.25 \times 67.875 + 125 \times 6.7875 + 1250 \times 0.053375$
 *(51) $\frac{1}{1 \times 4} + \frac{1}{4 \times 7} + \frac{1}{7 \times 10} + \frac{1}{10 \times 13} + \frac{1}{13 \times 16}$
 *(52) $1 - \frac{1}{3} - \frac{1}{5} - \frac{1}{7} - \frac{1}{9} - \frac{1}{11} - \frac{1}{13} - \frac{1}{15} - \frac{1}{17} - \frac{1}{19} - \frac{1}{21} - \frac{1}{23} - \frac{1}{25}$
 *(53) $\frac{1}{2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \frac{1}{4 \times 5} + \dots + \frac{1}{2000 \times 19999}$
 *(54) $\frac{1}{5 \times 7} + \frac{1}{7 \times 9} + \frac{1}{9 \times 11} + \frac{1}{11 \times 13} + \dots + \frac{1}{97 \times 99}$
 *(55) $1 + \frac{1}{1+2} + \frac{1}{1+2+3} + \dots + \frac{1}{1+2+3+\dots+100}$

$$*(56) 1 - \frac{2}{1 \times (1+2)} - \frac{3}{(1+2) \times (1+2+3)} - \frac{4}{(1+2+3) \times (1+2+3+4)}$$

$$(57) 1 + \frac{1}{2 + \frac{1}{3 + \frac{1}{4 + \frac{1}{5}}}}$$

B 卷

1. 填空.

(1) 两个数的和同一个数相乘, 可以()这叫做乘法分配律。

(2) $17 \times 25 \times 20 =$ ()

(3) $14 \times 99 + 14 =$ \times ()

(4) $25 \times$ $= 12 \times$

(5) $1600 \div 25 = (1600 \times 4) \div$ ()

(6) $1 + 2 + 3 + 4 + 5 + \dots + 50 =$

(7) $1285 - 737 - 436 =$ $-$ ()

(8) $80^2 - 6^2 =$

(9) $5454 \div 6 \div 9 =$ ()

(10) $5 + 10 + 15 + 20 + \dots + 495 + 500 =$

2. 直接写得数.

5×10

$25 \times 4 \quad 125 \times 8$

625×16

$37 \times 3 \quad 75 \times 4$

375×8

$12 \times 4 + 13 \times 4 \quad 8.2 + 0.54 + 0.46$

$(240 + 36) \div 6$

$2 - 0.35 - 0.65$

$4 \times (25 \times 14)$

90×30

102×2

$16 \div 1.6$

$3.5 + 3.5 \times 3$

$1.7 + 0.43 + 3.3$

$396 + 99$

6.25×8

$6.4 \times 0.2 + 3.6 \times 0.2$

3. 已知 $1 - \frac{1}{2} = \frac{1}{1 \times 2}$, $\frac{1}{2} - \frac{1}{3} = \frac{1}{2 \times 3}$, $\frac{1}{3} - \frac{1}{4} = \frac{1}{3 \times 4}$, $\frac{1}{4} - \frac{1}{5} = \frac{1}{4 \times 5}$, 求 $\frac{1}{1 \times 2}$

$+$ $\frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \frac{1}{4 \times 5}$ 的和。

4. 简算. (写简算过程)

(1) 369×101

(2) 6431×299

(3) $74 \times 38 + 19 \times 52$

(4) $56 \times 42 + 88 \times 21$

(5) $135 + 71 + 65 + 29$

(6) $98796 - 999$

(7) $3462 - 1137 - 152 - 863$

(8) $8528 - (308 + 128)$

(9) $20 \times 125 \times 24$

(10) $7 \div 13 \times 78 \div 6$

(11) $1642 \times 999 + 1642$

$$(12) 394600000 \div 25 \div 8 \div 125 \div 2$$

$$(13) 36 \times \left(\frac{1}{3} - \frac{1}{4} + \frac{5}{12} \right)$$

$$(14) 0.125 \times \frac{5}{7} \times 8$$

$$(15) 7.75 \times 8.4 + 2\frac{3}{5} \times 7\frac{3}{4} - 7\frac{3}{4}$$

5. 化简.

$$(1) \frac{12 - \frac{5}{15} \times 3\frac{9}{10} + \frac{5}{12}}{3\frac{7}{8} + 2.25 \times \frac{1}{6}}$$

$$(2) \frac{0.375 \times 1\frac{4}{5} \times 0.125}{12.5 \times 3\frac{3}{5} \times \frac{3}{8}}$$

6. 脱式计算.

$$(1) \frac{7}{15} \times \frac{2}{23} \times 41\frac{17}{22} \times 0 \times 3\frac{5}{7}$$

$$(2) \left(12\frac{13}{25} + 7\frac{8}{17} \right) \times 2.5 + \left(9\frac{9}{17} + 10\frac{12}{25} \right) \times 2.5$$

$$(3) 42.75 - \left(\frac{3}{5} + 9.6 \div 3\frac{1}{5} \right)$$

$$(4) \left(27.54 \times \frac{11}{8} - 3.405 \right) \div 0.3$$

$$(5) 2 \div \frac{3}{5} + \frac{3}{5} \div 2 + 1\frac{1}{2} \div 6 + 6 \div 1\frac{1}{2}$$

$$(6) 425 \div 3\frac{2}{5} + 4\frac{7}{12} \times 2\frac{2}{11} - 10\frac{5}{24}$$

$$(7) 15\frac{1}{3} + 13\frac{1}{2} \div 2\frac{1}{4} + 16\frac{1}{7} \times 0 - 10\frac{5}{24}$$

$$(8) \left(5\frac{3}{8} + 1 \div \frac{27}{74} \times 6\frac{3}{4} - 7\frac{5}{24} \right) \div 16\frac{2}{3}$$

$$(9) \left(3\frac{1}{4} + 2\frac{1}{6} \right) \div 2\frac{3}{6} - \frac{2}{3} \times 2\frac{1}{4} + 5\frac{1}{6}$$

$$(10) \left(3\frac{1}{4} \times 1\frac{1}{3} - 3\frac{3}{10} \times \frac{2}{3} + \frac{1}{6} \right) \div 8\frac{9}{10}$$

$$(11) \left(\frac{1}{3} - \frac{1}{7} \right) \times 21 + 2\frac{4}{5} \times 7 - 1\frac{4}{5} \times 7$$

$$(12) \left(5\frac{5}{6} \times 2\frac{1}{7} - 4\frac{5}{6} + 24\frac{8}{9} \div 10\frac{2}{3} \right) \div \left(20 - 36\frac{2}{3} \div 2\frac{4}{9} \right)$$

7. 计算下面各题. (能简算要简算)

$$(1) 582 + 333 + 118 + 777$$

$$(2) 1250 \times 197 \times 8$$

- (3) $5612 - 227 - 612 - 773$ (4) $389 - (174 + 89)$
 (5) $656 + 176 - 256 + 124$ (6) $8111 - (2111 - 1593)$
 (7) $11340 \div 36 \times 9$ (8) $84 \times (25 \times 37)$
 (9) $56 \times (125 \div 7)$ (10) $37 \times 81 + 81 \times 63$
 (11) $(93 + 159) \div 3$ (12) $272 \div 4 + 528 \div 4$
 (13) $(640 - 560) \div 8$ (14) $1350 \div 5 - 350 \div 5$
 (15) $34 \times 44 + 32 \times 22$ (16) $384 \div 6 + 138 \div 6$
 (17) $184 \div 4 + 175 \div 5 + 125 \div 5$
 (18) $809 \times 198 - 809 \times 47 - 51 \times 809$
 (19) $486 \times 49 + 15 \times 486 + 36 \times 486$
 (20) $57 \times 57 + 57 \times 85 + 57 \times 58$
 (21) $120 \div (9 \div 8) \div (8 \div 7) \div (7 \div 6)$
 (22) $1 + 2 - 3 + 4 + 5 - 6 + \dots + 89 - 90$
 (23) $50000 + 999 - 997 + 998 - 996$
 (24) $8 + 98 + 998 + 9998 + 99998$
 (25) $3895 \div 41 - 1058 \div 41 - 828 \div 41$
 (26) $2280 \div 34 - 628 \div 34 + 456 \div 34$
 *(27) $\frac{1992}{1993} \times 1994$
 (28) $2871 \times \frac{1}{29}$
 *(29) $\frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \dots + \frac{1}{50 \times 51}$
 (30) $(\frac{1}{69} + \frac{2}{71}) \times 23 + 25 \times \frac{1}{71}$
 *(31) $\frac{1}{3 \times 4} + \frac{1}{4 \times 5} + \frac{1}{5 \times 6} + \frac{1}{6 \times 7} + \frac{1}{7 \times 8} + \frac{1}{8 \times 9}$
 *(32) $\frac{1+2 \times 1}{1992} + \frac{1+2 \times 2}{1992} + \frac{1+2 \times 3}{1992} + \dots + \frac{1+2 \times 1992}{1992}$

C 卷

1. 直接写得数.

- | | | |
|----------------------------|-----------------------------------|-----------------------|
| $7.2 + 2.8$ | $0.36 + 0.64$ | $27 + 456 + 73$ |
| $0.96 \div 0.3$ | $8.4 \div 4.2$ | $30 \times (200 + 3)$ |
| $(1.25 + 0.36) \times 0.2$ | $(1.5 + 0.25) \times 4$ | |
| $2.14 - 0.9$ | $6.4 \times 0.2 + 3.6 \times 0.2$ | |
| $8 \times (2.5 + 0.25)$ | $8.4 \times 0.2 + 1.6 \times 0.2$ | |
| $1000 - 547$ | $45000 - 876$ | |
| $140000 - 8375$ | $38000000 - 1234567$ | |

$$(1) \frac{(11.69 + 9.3 - 12.79) \times 0.9}{36}$$

$$(2) \frac{3}{3 + \frac{1}{3 + \frac{1}{3 + \frac{1}{3}}}}$$

8. 计算下面各题.

$$(1) 8888 \times 13 + 2222 \times 48$$

$$(2) 12 \times 12 \times 12 - 12 \times 12 - 11$$

$$*(3) \frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \Lambda + \frac{1}{199 \times 200}$$

$$*(4) \frac{121212}{373737}$$

$$*(5) \frac{213213213213}{412412412412}$$

$$(6) 1 - 3 + 5 - 7 + 9 - 11 + \dots - 1999 + 2001$$

$$(7) \frac{1}{2} + \frac{1}{6} + \frac{1}{12} + \frac{1}{24} + \frac{1}{48}$$

$$*(8) 2\frac{1}{10} + 4\frac{1}{40} + 6\frac{1}{88} + 8\frac{1}{154} + 10\frac{1}{238} + 12\frac{1}{340}$$

$$*(9) \frac{1}{1 \times 2 \times 3 \times 4} + \frac{1}{2 \times 3 \times 4 \times 5} + \Lambda + \frac{1}{17 \times 18 \times 19 \times 20}$$

$$(10) \frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56} + \frac{1}{72} + \frac{1}{90}$$

$$*(11) \frac{1}{2} + \frac{5}{6} + \frac{11}{12} + \frac{19}{20} + \frac{29}{30} + \frac{41}{42} + \Lambda + \frac{9701}{9702} + \frac{9899}{9900}$$

$$*(12) 252 + 254 + 256 + \dots + 410 + 412 + 414$$

$$*(13) 9.2 + 99.2 + 999.2 + 9999.2 + 99999.2$$

$$*(14) (3 + 1.23 + 2.72) \times (1.23 + 2.72 + 3.7) - (3 + 1.23 + 2.72 + 3.7) \times (1.23 + 2.72)$$

$$*(15) 42 \times \left(\frac{1}{8} + \frac{1}{24} + \frac{1}{48} + \frac{1}{80} + \frac{1}{120} + \frac{1}{168} \right)$$

$$*(16) 367 \times \left(\frac{1}{162} - \frac{1}{205} \right) + 162 \times \left(\frac{1}{205} + \frac{1}{367} \right)$$

$$*(17) 66666666 \times 2.4 + 22222222 \times 92.8$$

$$(18) 7564 \times 87218721 - 8721 \times 75647564$$

$$(19) 78 \times 45 \times 84 \div (39 \times 15 \times 14)$$

$$*(20) 1 - 3 + 5 - 7 + 9 - 11 + \dots - 47 + 49$$

$$(21) 5.48 \div 2.34 \times 19.8 \div 5.48 \times 2.34 \div 19.8$$

$$*(22) 2.44 + 2.45 + 2.46 + \dots + 9.79 + 9.8$$

$$*(23) 1996 \div \{ 1996 + [1996 - (138 \times 8 - 8)] + (138 \times 8 - 8) \}$$

$$(24) 0.888 \times 125 \times 73 + 999 \times 3^*$$

$$*(25) \frac{1}{55} + \frac{2}{55} + \frac{3}{55} + \Lambda + \frac{10}{55} - \frac{11}{155} - \frac{12}{155} - \frac{13}{155} - \Lambda - \frac{20}{155}$$

$$*(26) (2375 - \frac{1}{2376}) \div (2376 - \frac{1}{2375})$$

$$(27) 96587 + 79658 + 87965 + 58796 + 65879$$

$$*(28) (\frac{1}{2} + \frac{1}{4} + \frac{1}{6} + \frac{1}{8}) \times 2 - (\frac{1}{3} + \frac{1}{5} + \frac{1}{7} + \frac{1}{9}) \times 2$$

$$*(29) 1.1 + 3.3 + 5.5 + 7.7 + 9.9 + 11.11 + 13.13 + 15.15 + 17.17 + 19.19$$

$$*(30) \frac{1}{128} + \frac{1}{256} + \frac{1}{512} + \frac{1}{1024} + \frac{1}{2048} + \frac{1}{4096} + \frac{1}{8192}$$

八、参考答案

(一) 整小数速算

1. (1)125 (2)129 (3) 125 (4)225
(5) 143 (6)43 (7)43 (8)253 (9)95
(10)77 (11)84 (12)100 (13)44 (14)19
(15)29 (16)78 (17)25 (18)26 (19) 25
(20)0.55 (21)1.6 (22)0.6 (23)2.7
(24)0.14 (25)1 (26)3 (27)9.7 (28)2.6
2. (1)6 (2)600 ; 1 (3) - ; 4 (4)200 ; + ; 5
(5)400 ; + ; 2 (6) + (7)400 ; 3
(8)1000 ; + ; 2 (9)4000 ; + ; 1 (10) + ; -
(11)- ; 200 ; + ; 6 (12)94 ; + ; 506 (13)- ; + ; 275
(14)- ; 3.98 ; + ; 0.02
3. (1)原式=168 + 200 + 5=368 + 5=373
(2)原式=408 - 200 - 3=208 - 3=205
(3)原式=458 + 300 - 2=758 - 2=756
(4)原式=539 - 500 + 2=39 + 2=41
(5)原式=400 + 564 + 2=964 + 2=966
(6)原式=537 - 300 + 1=237 + 1=238
(7)原式=664 - 500 + 4=164 + 4=168
(8)原式=400 + 449 - 5=849 - 5=844
(9)原式=1239 + 300 - 8=1539 - 8=1531
(10)原式=827 + 400 - 3=1227 - 3=1224
(11)原式=4159 - 1000 + 6=3159 + 6=3165
(12)原式=1048 + 500 + 9=1548 + 9=1557
(13)原式=1849 - 500 + 2=1349 + 2=1351
(14)原式=383 + 700 - 1=1083 - 1=1082
(15)原式=578 - 100 + 1=478 + 1=479
(16)原式=443 + 300 + 5=743 + 5=748
(17)原式=932 - 300 - 4=632 - 4=628
(18)原式=738 - 500 + 2=238 + 2=240
(19)原式=374 + 200 - 4=574 - 4=570
(20)原式=1584 - 1000 + 3=584 + 3=587
4. (1)原式=126 - (72 + 28)=126 - 100=26
(2)原式=573 - (84 + 116)=573 - 200=373
(3)原式=4354 - (625 + 375)=4354 - 1000=3354
(4)原式=513 - (129 + 371)=513 - 500=13
(5)原式=542 - (328 + 72)=542 - 400=142
(6)原式=1290 - (132 + 168)=1290 - 300=990
(7)原式=627 - (45 + 55 + 27)=627 - 127=500
(8)原式=243 - 143 - 76=100 - 76=24
(9)原式=549 - 249 - 157=300 - 157=143

- (10)原式=1000 - 671=329
5. (1)原式=3.8 - 1.8 - 0.04=2 - 0.04=1.96
 (2)原式=11.62 + 3 + 0.3=14.62 + 0.3=14.92
 (3)原式=12.56 - 1 + 0.1=11.56 + 0.1=11.66
 (4)原式=13.6 + 11 - 0.1=24.6 - 0.1=24.5
 (5)原式=9.87 + 2 + 0.03=11.87 + 0.03=11.9
 (6)原式=54.2 - 3 + 0.2=51.2 + 0.2=51.4
 (7)原式=32.5 - 1 + 0.02=31.5 + 0.02=31.52
 (8)原式=3.62 + 5 - 0.2=8.62 - 0.2=8.42
 (9)原式=6.7 - 3.7 - 0.01=3 - 0.01=2.99
 (10)原式=596.3 - 4 + 0.3=592.3 + 0.3=592.6
6. (1)原式=9.53 - (3.78 + 0.22)=9.53 - 4=5.53
 (2)原式=18.48 - 2.48 - 15.6=16 - 15.6=0.4
 (3)原式=1.56 - (0.82 + 0.18)=1.56 - 1=0.56
 (4)原式=6.5 - (1.48 + 0.52)=6.5 - 2=4.5
 (5)原式=13.04 - (7.6 + 2.4)=13.04 - 10=3.04
 (6)原式=17.3 - (5.24+1.76)=17.3 - 7=10.3
 (7)原式=40.05 - (8.29 + 11.71)=40.05 - 20=20.05
 (8)原式=7.03 - (0.674+1.326)=7.03 - 2=5.03
 (9)原式=7.91 - 4.91 - 2.6=3 - 2.6=0.4
 (10)原式=18.85 - (2.61+0.24)=18.85 - 2.85=16
7. (1)错；原式=1453 - 400 + 3=1053 + 3=1056
 (2)错；原式=65.1 - 25.1 - 1.8=40 - 2 + 0.2=38.2
 (3)错；原式=486 - (168 + 22)=486 - 190=486 - 200 + 10=286 + 10=296
 (4)对。
 (5)错；原式=3286 - 1000 - 5=2286 - 5=2281
 (6)错；原式=2000 + 1364 + 7=3364 + 7=3371
8. (1)原式=86 + 100 - 22=186 - 22=164
 (2)原式=167 - 100 + 12=67 + 12=79
 (3)解法一：原式=2400 + 249 - 2=2649 - 2=2647
 解法二：原式=2398 + 2 + 247=2400 + 247=2647
 (4)解法一：原式=400 + 169 - 13=569 - 13=556
 解法二：原式=387 + 13 + 156=400 + 156=556
 (5)解法一：原式=3.47 - 1.47 - 0.22=2 - 0.22=1.78
 解法二：原式=3.47 - 2 + 0.31=1.47 + 0.31=1.78
 (6)解法一：原式=3.48 - 1.48 - 0.31=2 - 0.31=1.69
 解法二：原式=3.48 - 2 + 0.21=1.48 + 0.21=1.69
 (7)原式=145 + 100 - 6=245 - 6=239
 (8)原式=400 + 156 - 2=556 - 2=554
 (9)原式=2273 - (652 + 348)=2273 - 1000=1273
 (10)原式=1993 - (765+238)=1993 - 1003=990
 (11)原式=125.8 - (46.5 + 53.5)=125.8 - 100=25.8
 (12)原式=1992 - (351 + 649)=1992 - 1000=992
 (13)原式=457 - 196=457 - 200 + 4=261

(14)原式=(238 - 100 + 2) + (156 + 200 + 1)=140 + 357=497

*9. (1)原式=1275 - 275 - 167=1000 - 167=833

(2)原式=437 + 563 - 298=1000 - 300 + 2=702

(3)原式=625 - 125 - 378=500 - 400 + 22=122

(4)原式=542 - 342 + 175=200 + 175=375

(5)原式=859 - (239 + 341 + 20)=859 - 600=259

(6)原式=5405 - 405 - 240=5000 - 200 - 40=4760

(7)原式=1750 - 750 + 290=1000 + 290=1290

(8)原式=2480 + 520 - 616=3000 - 616=2384

(9)原式=4250 - (294 - 94)=4250 - 200=4050

(10)原式=2730 + 270 - 824=3000 - 824=2176

(11)原式=4695 - 695 + 480=4000 + 480=4480

(12)原式=10000 + 1000 + 100 + 10 - 4=11110 - 4=11106

10. (1)2880 (2)2412 (3)1000 (4)119

(5)1000 (6)78000 (7)6400 (8)16400

(9)1476 (10)21378 (11)2

(12)50 (13)20 (14)5 (15)3

(16)40 (17)6 (18)9 (19)3.6

(20)0.099 (21)0.088 (22)0.01

(23)1.4 (24)0.12 (25)0.02

(26)0.2 (27)1 (28)8

11. (1)2 (2)2 ; 2 (3) ÷ ; X ; 2 (4) ÷ ; 2 ; × ; 2

(5) 2 (6)2 (7) ÷ (8) ×

(9) ÷ ; 2 (10) × ; 2 (11)10 ; 2

(12) × ; 10 ; 2 (13)4 ; 25 (14)8 ; × ; 125

12. (1)原式=(12 ÷ 2) × (15 × 2)=6 × 30=180

(2)原式=(24 ÷ 2) × (15 × 2)=12 × 30=360

(3)原式=(36 ÷ 2) × (15 × 2)=18 × 30=540

(4)原式=(48 ÷ 2) × (15 × 2)=24 × 30=720

(5)原式=42 × 10 ÷ 2=420 ÷ 2=210

(6)原式=86 × 10 ÷ 2=860 ÷ 2=430

(7)原式=58 × 10 ÷ 2=580 ÷ 2=290

(8)原式=63 × 10 ÷ 2=630 ÷ 2=315

(9)原式=360 × 10 ÷ 2=3600 ÷ 2=1800

(10)原式=1440 × 10 ÷ 2=14400 ÷ 9=7200

(11)原式=(16 ÷ 2) × (15 × 2)=8 × 30=240

(12)原式=(82 ÷ 2) × (15 × 2)=41 × 30=1230

13. (1)原式=69 ÷ 2=34.5 (2)原式=298 ÷ 2=149

(3)原式=720 × 2=1440 (4)原式=478 × 2=956

(5)原式=78 ÷ 2=39 (6)原式=146 ÷ 2=73

(7)原式=56 × 2=112 (8)原式=80 × 2=160

(9)原式=438 ÷ 2=219 (10)原式=125 ÷ 2=62.5

(11)原式=1600 × 2=3200 (12)原式=9000 × 2=18000

(13)原式=96 × 2=192 (14)原式=427 ÷ 2=213.5

14. (1)原式= $4800 \div (25 \times 4) = 4800 \div 100 = 48$
 (2)原式= $68000 \div (4 \times 25) = 68000 \div 100 = 680$
 (3)原式= $5400 \div (4 \times 25) = 5400 \div 100 = 54$
 (4)原式= $36000 \div (8 \times 125) = 36000 \div 1000 = 36$
 (5)原式= $9100 \div (125 \times 8) = 9100 \div 1000 = 9.1$
 (6)原式= $3200 \div (4 \times 25) = 3200 \div 100 = 32$
 (7)原式= $6000 \div (8 \times 125) = 6000 \div 1000 = 6$
 (8)原式= $504000 \div (125 \times 8) = 504000 \div 1000 = 504$
15. (1)原式= $(8.6 \div 2) \times (15 \times 2) = 4.3 \times 30 = 129$
 (2)原式= $(3.2 \div 2) \times (15 \times 2) = 1.6 \times 30 = 48$
 (3)原式= $(4.8 \div 2) \times (15 \times 2) = 2.4 \times 30 = 72$
 (4)原式= $(7.2 \div 2) \times (15 \times 2) = 3.6 \times 30 = 108$
 (5)原式= $6.4 \times 10 \div 2 = 64 \div 2 = 32$
 (6)原式= $0.72 \times 10 \div 2 = 7.2 \div 2 = 3.6$
 (7)原式= $2.4 \times 10 \div 2 = 24 \div 2 = 12$
 (8)原式= $0.38 \times 10 \div 2 = 3.8 \div 2 = 1.9$
 (9)原式= $(1.06 \div 2) \times (15 \times 2) = 0.53 \times 30 = 15.9$
 (10)原式= $0.024 \times 10 \div 2 = 0.24 \div 2 = 0.12$
16. (1)原式= $15.6 \div 2 = 7.8$ (2)原式= $13.8 \div 2 = 6.9$
 (3)原式= $2.56 \div 2 = 1.28$ (4)原式= $0.32 \div 2 = 0.16$
 (5)原式= $14.3 \times 2 = 28.6$ (6)原式= $0.35 \times 2 = 0.7$
 (7)原式= $7.6 \times 2 = 15.2$ (8)原式= $26.5 \times 2 = 53$
 (9)原式= $19.6 \div 2 = 9.8$ (10)原式= $0.18 \times 2 = 0.36$
17. (1)原式= $800 \div (4 \times 2.5) = 800 \div 10 = 80$
 (2)原式= $5200 \div (0.4 \times 25) = 5200 \div 10 = 520$
 (3)原式= $29000 \div (8 \times 1.25) = 29000 \div 10 = 2900$
 (4)原式= $1900 \div (0.8 \times 12.5) = 1900 \div 10 = 190$
 (5)原式= $14.7 \div (4 \times 0.25) = 14.7 \div 1 = 14.7$
 (6)原式= $3.3 \div (0.8 \times 12.5) = 3.3 \div 10 = 0.33$
 (7)原式= $89.5 \div (25 \times 0.4) = 89.5 \div 10 = 8.95$
 (8)原式= $282.6 \div (4 \times 25) = 282.6 \div 100 = 2.826$
18. (1)错；原式= $(14 \div 2) \times (15 \times 2) = 7 \times 30 = 210$
 (2)对。
 (3)错；原式= $4.2 \div 2 = 2.1$
 (4)错；原式= $139 \div (0.4 \times 2.5) = 139 \div 1 = 139$
19. (1)原式= $(28 \div 2) \times (15 \times 2) = 14 \times 30 = 420$
 (2)原式= $3.6 \times 2 = 7.2$
 (3)原式= $440 \times 10 \div 2 = 4400 \div 2 = 2200$
 (4)原式= $12.8 \div 2 = 6.4$
 (5)原式= $(1.2 \div 2) \times (15 \times 2) = 0.6 \times 30 = 18$
 (6)原式= $9.8 \times 10 \div 2 = 98 \div 2 = 49$
 (7)原式= $65 \times 2 = 130$
 (8)原式= $207 \div 2 = 103.5$
 (9)原式= $7700 \div (4 \times 25) = 7700 \div 100 = 77$

- (10)原式= $4.6 \div (0.4 \times 25) = 4.6 \div 10 = 0.46$
 (11)原式= $26000 \div (8 \times 125) = 26000 \div 1000 = 26$
 (12)原式= $73.6 \div (12.5 \times 0.8) = 73.6 \div 10 = 7.36$
 (13)原式= $184 \div 0.5 = 184 \times 2 = 368$
 (14)原式= $96 \times 5 = 96 \times 10 \div 2 = 960 \div 2 = 480$

- *20. (1)原式= $3300 \div (75 \times 4) = 3300 \div 300 = 11$
 (2)原式= $24024 \div (4 \times 6) = 24024 \div 24 = 1001$
 (3)原式= $2.1 \div (35 \times 5) = 2.1 \div 7 = 0.3$
 (4)原式= $3.4 \times (400 \div 200) = 3.4 \times 2 = 6.8$
 (5)原式= $18264372 \times 10 \div 2 = 182643720 \div 2 = 91321860$
 (6)原式= $(1.25 \times 8) \times (10.4 \div 8) = 10 \times 1.3 = 13$
 (7)原式= $160 \div 40 \times 50 = 4 \times 50 = 200$
 (8)原式= $6600 \div 11 \div 5 = 600 \div 5 = 120$
 (9)原式= $720 \div 9 \div 16 = 80 \div 16 = 5$
 (10)原式= $1600 \div 400 \times 32 = 4 \times 32 = 128$
 (11)原式= $4 \times 700 \div 28 = 2800 \div 28 = 100$
 (12)原式= $2.5 \times 40 \times 3.7 = 100 \times 3.7 = 370$

21. (1)7 (2)72 (3)2 (4)41
 (5)11 (6)0 (7)35 (8)82
 (9)2500 (10)100 (11)7.4 (12)0
 (13)1 (14)2.1 (15)1.48 (16)1.5
 (17)2 (18)10 (19)2.4 (20)100
 (21)1 (22)3 (23)90 (24)8.8
 (25)0 (26)1 (27)2 (28)2.25

22. (1)原式= $1 + 0 + 63 = 64$ (2)原式= $1 + 0 + 32 = 33$
 (3)原式= $200 \div 20 - 1 = 9$ (4)原式= $45 + 0 - 12 = 33$
 (5)原式= $0 + 1 = 1$ (6)原式= $1 - 0 + 1 = 2$
 (7)原式= $1375 - 0 + 22 = 1397$ (8)原式= $1000 + 1000 = 2000$
 (9)原式= $2 + 0 - 0.7 = 1.3$ (10)原式= $0 + 880 = 880$
 (11)原式= $10 - 3.8 + 0 = 6.2$ (12)原式= $1268 + 0 - 268 = 1000$

23. (1)原式= $244 - 0 + 999 = 244 + 1000 - 1 = 1243$
 (2)原式= $0 + 1 \times 68 = 68$
 (3)原式= $2 \times 101 + 399 = 202 + 399 = 200 + 400 + 1 = 601$
 (4)原式= $40 + 24 \times 0 = 40 + 0 = 40$
 (5)原式= $1 - (1 + 1) \times 0.5 = 1 - 2 \times 0.5 = 1 - 1 = 0$
 (6)原式= $(24.8 - 20) \div 8 + 1.2 = 4.8 \div 8 + 1.2 = 1.8$
 (7)原式= $15 + 12.5 \times 0.8 = 15 + 10 = 25$
 (8)原式= $1000 + (104 - 104) \div 8 = 1000 + 0 = 1000$
 (9)原式= $10 - 0.65 - 7.35 = 10 - (0.65 + 7.35) = 10 - 8 = 2$
 (10)原式= $1 + (0 + 6.32) = 1 + 6.32 = 7.32$
 (11)原式= $4.9 - 0 + 3.2 = 5 + 3.2 - 0.1 = 8.2 - 0.1 = 8.1$
 (12)原式= $10 - 1.73 - 2.27 = 10 - (1.73 + 2.27) = 10 - 4 = 6$

24. (1)原式= $0 + 1 \times 6 = 6$
 (2)原式= $1000 - [15 + 0] \div 15 = 1000 - 1 = 999$

- (3)原式= $15 + 12.5 \times 0.8 = 15 + 10 = 25$
 (4)原式= $[1.8 - 0] \div 9 = 1.8 \div 9 = 0.2$
 (5)原式= $[0 + 80 \div 8] \times 2.5 = 10 \times 2.5 = 25$
 (6)原式= $[0.25 - 0.25] \times 3.827 + 1 = 0 + 1 = 1$
 (7)原式= $10 - 1.8 \div 1.8 = 10 - 1 = 9$
 (8)原式= $[9.3 \div 9.3 - 0] \div 0.25 = 1 \div 0.25 = 4$
25. (1)原式= $45 + 0 - 35 = 10$ (2)原式= $1 + 0 + 72 - 13 = 60$
 (3)原式= $0.6 \times 0 \div 0.9 = 0$ (4)原式= $1.44 + 0 = 1.44$
 (5)原式= $[5.5 - 0] \div 5 = 1.1$ (6)原式= $12.5 - 1 \div 2 = 12$
 (7)原式= $1 + 0 + 6.32 = 7.32$ (8)原式= $(120 - 0) \times 10 = 1200$
- *26. (1)原式= $4 \times 800 \div 32 + 56 = 3200 \div 32 + 56 = 156$
 (2)原式= $56.8 \div (2.5 \times 0.4) - 0.7 = 56.8 \div 1 - 0.7 = 56.1$
 (3)原式= $50 - 248 \div 124 \times 23 = 50 - 2 \times 23 = 4$
 (4)原式= $[372 - 272 + 145] \div 100 = 245 \div 100 = 2.45$
 (5)原式= $1600 \div 200 \times 12 - 90 = 8 \times 12 - 90 = 6$
 (6)原式= $12.5 \times 7.2 \div 9 - 0.7 = 12.5 \times (7.2 \div 9) - 0.7 = 9.3$

(二) 分数速算

1、

- (1) $\frac{8}{9}$ (2) $\frac{2}{5}$ (3) 6 (4) $10\frac{2}{5}$
 (5) $4\frac{1}{7}$ (6) $2\frac{3}{5}$
- (7) $\frac{9}{14}$ (8) $\frac{8}{17}$ (9) $\frac{8}{9}$ (10) 1
 (11) $\frac{1}{2}$ (12) $\frac{2}{5}$ (13) $\frac{3}{11}$ (14) 1
 (15) $\frac{3}{5}$ (16) $\frac{1}{15}$ (17) $\frac{1}{9}$ (18) $8\frac{1}{9}$
 (17) $\frac{1}{9}$ (18) $8\frac{1}{9}$ (19) 6 (20) $5\frac{1}{3}$
 (21) $\frac{3}{8}$ (22) 2 (23) $1\frac{1}{2}$ (24) 7
 (25) $\frac{1}{2}$ (26) $\frac{1}{2}$ (27) $2\frac{1}{3}$ (28) $6\frac{1}{10}$

2.

$$(1) \frac{7}{17}; \frac{9}{17} \quad (2) + \quad (3) -; \frac{7}{11}; +; \frac{4}{11}$$

$$(4) \frac{1}{5}; \frac{2}{9} \quad (5) -; - \quad (6) -; \frac{2}{21}; -; \frac{5}{8}$$

$$(7) \frac{9}{20}; 2\frac{11}{20}; \frac{9}{20}; +; 2\frac{11}{20}$$

$$(8) \frac{1}{4}; \frac{3}{4}; -; \frac{1}{4}; +; \frac{3}{4}$$

3.

$$(1) \text{原式} = 40\frac{1}{2} - (16\frac{5}{13} + 13\frac{8}{13}) = 40\frac{1}{2} - 30 = 10\frac{1}{2}$$

$$(2) \text{原式} = 9\frac{7}{8} - 8\frac{7}{8} - \frac{22}{23} = 1 - \frac{22}{23} = \frac{1}{23}$$

$$(3) \text{原式} = 8\frac{7}{15} - (1\frac{7}{9} + 2\frac{2}{9}) = 8\frac{7}{15} - 4 = 4\frac{7}{15}$$

$$(4) \text{原式} = 17\frac{6}{25} - 2\frac{6}{25} - 6\frac{2}{3} = 15 - 6\frac{2}{3} = 8\frac{1}{3}$$

$$(5) \text{原式} = 10\frac{3}{7} - (3\frac{5}{12} + 1\frac{7}{12}) = 10\frac{3}{7} - 5 = 5\frac{3}{7}$$

$$(6) \text{原式} = 4\frac{7}{11} - \frac{7}{11} - \frac{40}{43} = 4 - \frac{40}{43} = 3\frac{4}{43}$$

$$(7) \text{原式} = 16\frac{5}{7} - (4\frac{21}{23} + 5\frac{2}{23}) = 16\frac{5}{7} - 10 = 6\frac{5}{7}$$

$$(8) \text{原式} = 19\frac{11}{18} - 9\frac{11}{18} - 1\frac{1}{3} = 10 - 1\frac{1}{3} = 8\frac{2}{3}$$

$$(9) \text{原式} = 15\frac{3}{7} - (6\frac{19}{31} + 8\frac{12}{31}) = 15\frac{3}{7} - 15 = \frac{3}{7}$$

$$(10) \text{原式} = 6\frac{5}{9} - 1\frac{5}{9} - 4\frac{4}{5} = 5 - 4\frac{4}{5} = \frac{1}{5}$$

$$(11) \text{原式} = 45\frac{2}{3} - (4\frac{19}{73} + 5\frac{54}{73}) = 45\frac{2}{3} - 10 = 35\frac{2}{3}$$

$$(12) \text{原式} = 17\frac{7}{8} - 3\frac{7}{8} - 5\frac{3}{4} = 14 - 5\frac{3}{4} = 8\frac{1}{4}$$

$$4.(1) \text{原式} = 8\frac{4}{7} - \frac{5}{6} - \frac{1}{6} = 8\frac{4}{7} - (\frac{5}{6} + \frac{1}{6}) = 7\frac{4}{7}$$

$$(2) \text{原式} = 9.6 - \frac{1}{4} - 3\frac{3}{4} = 9.6 - (\frac{1}{4} + 3\frac{3}{4}) = 5.6$$

$$(3) \text{原式} = 10\frac{2}{3} - 6\frac{3}{4} - 2\frac{1}{4} = 10\frac{2}{3} - (6\frac{3}{4} + 2\frac{1}{4}) = 1\frac{2}{3}$$

$$(4) \text{原式} = 7\frac{9}{100} - 1\frac{11}{24} - 3\frac{13}{24} = 7\frac{9}{100} - (1\frac{11}{24} + 3\frac{13}{24}) = 2\frac{9}{100}$$

$$(5) \text{原式} = 101\frac{8}{9} - 49\frac{4}{7} - 40\frac{3}{7} = 101\frac{8}{9} - (49\frac{4}{7} + 40\frac{3}{7}) = 11\frac{8}{9}$$

$$(6) \text{原式} = 12\frac{2}{5} + [3\frac{7}{18} - 2\frac{7}{18} - \frac{2}{5}] - 1 = 12\frac{2}{5} + [1 - \frac{2}{5}] - 1 = 12\frac{2}{5} + \frac{3}{5} - 1 = 12$$

$$(7) \text{原式} = 3\frac{1}{4} - [2\frac{2}{3} - 1\frac{2}{3} - \frac{3}{4}] + \frac{1}{8} = 3\frac{1}{4} - [1 - \frac{3}{4}] + \frac{1}{8} = 3\frac{1}{4} - \frac{1}{4} + \frac{1}{8} = 3\frac{1}{8}$$

$$(8) \text{原式} = 0.75 + [15\frac{15}{19} - \frac{15}{19} - 4\frac{3}{4}] - \frac{1}{3} = 0.75 + [15 - 4\frac{3}{4}] - \frac{1}{3} \\ = \frac{3}{4} + 10\frac{1}{4} - \frac{1}{3} = 10\frac{2}{3}$$

$$5.(1) \text{错} ; \text{原式} = 10\frac{3}{8} - (6\frac{5}{11} + 3\frac{6}{11}) = 10\frac{3}{8} - 10 = \frac{3}{8}$$

$$(2) \text{错} ; \text{原式} = 3\frac{3}{4} - 2\frac{3}{4} - \frac{2}{5} = 1 - \frac{2}{5} = \frac{3}{5}$$

$$(3) \text{错} ; \text{原式} = 5\frac{7}{8} - 2\frac{7}{8} - 2\frac{1}{7} = 3 - 2\frac{1}{7} = \frac{6}{7}$$

(4)对。

$$6.(1) \text{原式} = 3\frac{4}{9} - (\frac{5}{16} + \frac{11}{16}) = 3\frac{4}{9} - 2 = 1\frac{4}{9}$$

$$(2) \text{原式} = 10\frac{2}{3} - (\frac{1}{8} + 7\frac{7}{8}) = 10\frac{2}{3} - 8 = 2\frac{2}{3}$$

$$(3) \text{原式} = 11\frac{8}{27} - \frac{8}{27} - 1\frac{3}{10} = 11 - 1\frac{3}{10} = 9\frac{7}{10}$$

$$(4) \text{原式} = 6\frac{4}{5} - 3\frac{4}{5} - 3\frac{5}{6} = 3 - 2\frac{5}{6} = \frac{1}{6}$$

$$(5) \text{原式} = 7\frac{12}{25} - (\frac{1}{9} + 5\frac{8}{9}) = 7\frac{12}{25} - 6 = 1\frac{12}{25}$$

$$(6) \text{原式} = 8\frac{3}{4} - 1\frac{3}{4} - \frac{2}{5} = 7 - \frac{2}{5} = 6\frac{3}{5}$$

$$(7) \text{原式} = 6\frac{9}{10} - 4\frac{9}{10} - 1\frac{2}{3} = 2 - 1\frac{2}{3} = \frac{1}{3}$$

$$(8) \text{原式} = 15\frac{1}{12} - (2\frac{5}{7} + 2\frac{2}{7}) = 15\frac{1}{12} - 5 = 10\frac{1}{12}$$

$$(9) \text{原式} = 6\frac{5}{7} - 5\frac{5}{7} - 0.75 = 1 - 0.75 = 0.25$$

$$(10) \text{原式} = 5\frac{3}{10} - (\frac{7}{13} + \frac{6}{13}) = 5\frac{3}{10} - 1 = 4\frac{3}{10}$$

$$(11) \text{原式} = 9\frac{3}{5} - (\frac{7}{16} + 1\frac{9}{16}) = 9\frac{3}{5} - 2 = 7\frac{3}{5}$$

$$(12) \text{原式} = 11\frac{11}{36} - 1\frac{11}{36} - 9\frac{9}{14} = 10 - 9\frac{9}{14} = \frac{5}{14}$$

$$(13) \text{原式} = 4\frac{9}{20} - \frac{5}{12} - \frac{7}{12} = 4\frac{9}{20} - (\frac{5}{12} + \frac{7}{12}) = 3\frac{9}{20}$$

$$(14) \text{原式} = 9\frac{9}{10} - 3\frac{29}{35} - \frac{6}{35} = 9\frac{9}{10} - (3\frac{29}{36} + \frac{6}{35}) = 5\frac{9}{10}$$

$$(15) \text{原式} = 5\frac{2}{3} + (10\frac{3}{8} - 7\frac{3}{8} - 2\frac{2}{3}) - \frac{1}{4} = 5\frac{2}{3} + (3 - 2\frac{2}{3}) - \frac{1}{4}$$

$$= 5\frac{2}{3} + \frac{1}{3} - \frac{1}{4} = 5\frac{3}{4}$$

$$(16) \text{原式} = 5\frac{1}{2} + (112\frac{4}{7} - 12\frac{4}{7} - 35\frac{1}{2}) - \frac{1}{9} = 5\frac{1}{2} + 64\frac{1}{2} - \frac{1}{9} = 69\frac{8}{9}$$

$$*7.(1) \text{原式} = \frac{3+2}{2 \times 3} = \frac{5}{6}$$

$$(2) \text{原式} = \frac{5+3}{3 \times 5} = \frac{8}{15}$$

$$(3) \text{原式} = \frac{9+6}{6 \times 9} = \frac{5}{18}$$

$$(4) \text{原式} = \frac{3-2}{2 \times 3} = \frac{1}{6}$$

$$(5) \text{原式} = \frac{5-3}{3 \times 5} = \frac{2}{15}$$

$$(6) \text{原式} = \frac{9-6}{6 \times 9} = \frac{1}{18}$$

$$(7) \text{原式} = 1 - (\frac{1}{2} + \frac{1}{3}) + (\frac{1}{3} + \frac{1}{4}) - (\frac{1}{4} + \frac{1}{5})$$

$$= 1 - \frac{1}{2} - \frac{1}{3} + \frac{1}{3} + \frac{1}{4} - \frac{1}{4} - \frac{1}{5}$$

$$= \frac{1}{2} - \frac{1}{5} = \frac{3}{10}$$

$$(8) \text{原式} = (\frac{1}{2} - \frac{1}{3}) + (\frac{1}{3} - \frac{1}{4}) + (\frac{1}{4} - \frac{1}{5}) + (\frac{1}{5} - \frac{1}{6}) + (\frac{1}{6} - \frac{1}{7})$$

$$= \frac{1}{2} - \frac{1}{3} + \frac{1}{3} - \frac{1}{4} + \frac{1}{4} - \frac{1}{5} + \frac{1}{5} - \frac{1}{6} + \frac{1}{6} - \frac{1}{7}$$

$$= \frac{1}{2} - \frac{1}{7} = \frac{5}{14}$$

$$8.(1) \frac{9}{11} \quad (2) \frac{3}{7} \quad (3) 35 \quad (4) \frac{4}{5}$$

$$(5) 0 \quad (6) \frac{1}{36} \quad (7) 5\frac{5}{7} \quad (8) 7$$

$$(9) 2\frac{1}{4} \quad (10) 0 \quad (11) 9\frac{3}{4} \quad (12) 17$$

$(13) \frac{2}{7} \quad (14) \frac{3}{20} \quad (15) \frac{1}{4} \quad (16) \frac{5}{7}$

$(17) 0 \quad (18) 2\frac{1}{3} \quad (19) 2 \quad (20) 1\frac{3}{8}$

$(21) 0 \quad (22) \frac{1}{3} \quad (23) \frac{9}{40} \quad (24) 1\frac{1}{4}$

$(25) 16 \quad (26) 1 \quad (27) \frac{5}{7} \quad (28) 0.1$

$(29) \frac{5}{8} \quad (30) 1 \quad (31) \frac{1}{9} \quad (32) 15$

$9. (1) \times ; \times ; \times ; \times \quad (2) \frac{3}{2} ; \times ; \frac{4}{3} ; \times ; \frac{5}{4} ; \times ; \frac{6}{5}$

$(3) \frac{7}{4} \quad (4) 9.6 ; \frac{5}{3} \quad (5) \times ; \div \quad (6) \div ; 3 \quad (7) \times ; \div ; 4$

$(8) 7\frac{3}{11} ; \frac{2}{3}$

$10. (1) \text{原式} = \frac{1}{3} \times \frac{4}{3} \times \frac{5}{4} \times \frac{6}{5} \times \frac{7}{6} \times \frac{8}{7} \times \frac{9}{8} \times \frac{10}{9} = 10$

$(2) \text{原式} = \frac{1}{10} \times \frac{11}{10} \times \frac{12}{11} \times \frac{13}{12} \times \frac{14}{13} \times \frac{15}{14} \times \frac{16}{15} = 16$

$(3) \text{原式} = \frac{1}{21} \times \frac{22}{21} \times \frac{23}{22} \times \frac{24}{23} \times \frac{25}{24} \times \frac{26}{25} \times \frac{27}{26} = 27$

$(4) \text{原式} = \frac{1}{101} \times \frac{102}{101} \times \frac{103}{102} \times \frac{104}{103} \times \frac{105}{104} \times \frac{106}{105} = 106$

$(5) \text{原式} = \frac{1}{193} \times \frac{194}{193} \times \frac{195}{194} \times \frac{196}{195} \times \frac{197}{196} \times \frac{198}{197} = 198$

$(6) \text{原式} = \frac{1}{1989} \times \frac{1990}{1989} \times \frac{1991}{1990} \times \frac{1992}{1991} \times \frac{1993}{1992} \times \frac{1994}{1993} = 1994$

$11. (1) \text{原式} = \frac{0.4}{2} \times \frac{11}{6} = 0.44 \quad (2) \text{原式} = \frac{1.2}{3} \times \frac{8}{3} = 9.6$

$(3) \text{原式} = \frac{4.2}{16} \times \frac{15}{4} = 63 \quad (4) \text{原式} = \frac{2.94}{5} \times \frac{3}{2} = 8.82$

$$(5) \text{原式} = \frac{0.07}{\cancel{0.77} \times \frac{78}{\cancel{11}}_1} = 5.46 \quad (6) \text{原式} = \frac{1.4}{\cancel{4.2} \times \frac{7}{\cancel{3}}_1} = 9.8$$

$$(7) \text{原式} = \frac{1.3}{\cancel{6.5} \times \frac{9}{\cancel{5}}_1} = 11.7 \quad (8) \text{原式} = \frac{0.11}{\cancel{0.88} \times \frac{11}{\cancel{8}}_1} = 1.21$$

$$12. (1) \text{原式} = (3\frac{1}{2} \times 2) \times (2\frac{2}{11} \div 2) = 7 \times 1\frac{1}{11} = 7\frac{7}{11}$$

$$(2) \text{原式} = (4\frac{2}{3} \times 3) \times (3\frac{3}{7} \div 3) = 14 \times 1\frac{1}{7} = 16$$

$$(3) \text{原式} = (8\frac{4}{5} \div 2) \times (2\frac{1}{2} \times 2) = 4\frac{2}{5} \times 5 = 22$$

$$(4) \text{原式} = (9\frac{3}{8} \div 3) \times (2\frac{1}{3} \times 3) = 3\frac{1}{8} \times 7 = 21\frac{7}{8}$$

$$(5) \text{原式} = (3\frac{1}{2} \times 2) \times (6\frac{2}{9} \div 2) = 7 \times 3\frac{1}{9} = 21\frac{7}{9}$$

$$(6) \text{原式} = (1\frac{10}{11} \times 11) \times (22\frac{11}{23} \div 11) = 21 \times 2\frac{1}{23} = 42\frac{21}{23}$$

$$(7) \text{原式} = (4\frac{1}{2} \times 2) \times (8\frac{4}{25} \div 2) = 9 \times 4\frac{2}{25} = 36\frac{18}{25}$$

$$(8) \text{原式} = (2\frac{5}{6} \times 6) \times (12\frac{6}{47} \div 6) = 17 \times 2\frac{1}{47} = 34\frac{17}{47}$$

$$(9) \text{原式} = (9\frac{4}{5} \times 5) \times (10\frac{5}{39} \div 5) = 49 \times 2\frac{1}{39} = 99\frac{10}{39}$$

$$(10) \text{原式} = (3\frac{3}{4} \times 4) \times (8\frac{8}{13} \div 4) = 15 \times 2\frac{2}{13} = 32\frac{4}{13}$$

$$13. (1) \text{原式} = 2\frac{2}{3} \div 1\frac{1}{3} \div \frac{1}{11} = 2 \div \frac{1}{11} = 22$$

$$(2) \text{原式} = 8\frac{6}{17} \div 4\frac{3}{17} \div \frac{2}{3} = 2 \div \frac{2}{3} = 3$$

$$(3) \text{原式} = 3\frac{9}{14} \div 1\frac{3}{14} \div \frac{3}{5} = 3 \div \frac{3}{5} = 5$$

$$(4) \text{原式} = 4\frac{4}{5} \div 2\frac{2}{5} \div \frac{2}{19} = 2 \div \frac{2}{19} = 19$$

$$(5) \text{原式} = 24\frac{8}{9} \div 6\frac{2}{9} \div \frac{4}{15} = 4 \div \frac{4}{15} = 15$$

$$(6) \text{原式} = 5\frac{5}{6} \div 1\frac{1}{6} \div \frac{5}{7} = 5 \div \frac{5}{7} = 7$$

$$(7) \text{原式} = 33\frac{11}{21} \div 3\frac{1}{21} \div \frac{11}{18} = 11 \div \frac{11}{18} = 18$$

$$(8) \text{原式} = 42\frac{12}{25} \div 7\frac{2}{25} \div \frac{6}{31} = 6 \div \frac{6}{31} = 31$$

14. (1) 错；原式 = $(6\frac{1}{2} \times 2) \times (2\frac{4}{9} \div 2) = 13 \times 1\frac{2}{9} = 15\frac{8}{9}$

(2) 错；原式 = $18\frac{4}{5} \div 9\frac{2}{5} \div \frac{3}{7} = 2 \div \frac{3}{7} = 4\frac{2}{3}$

(3) 错；原式 = $\overset{0.7}{5.6} \times \frac{11}{8} = 7.7$

(4) 对。

15. (1) 原式 = $\frac{1}{2} \times \frac{\overset{1}{3}}{2} \times \frac{\overset{1}{4}}{\underset{1}{3}} \times \frac{\overset{1}{5}}{\underset{1}{4}} \times \frac{\overset{1}{6}}{\underset{1}{5}} \times \frac{\overset{1}{7}}{\underset{1}{6}} \times \frac{\overset{1}{8}}{\underset{1}{7}} = \frac{8}{4} = 2$

(2) 原式 = $\overset{1}{24} \times \frac{\overset{1}{25}}{\underset{1}{24}} \times \frac{\overset{1}{26}}{\underset{1}{25}} \times \frac{\overset{1}{27}}{\underset{1}{26}} \times \frac{\overset{1}{28}}{\underset{1}{27}} \times \frac{\overset{1}{29}}{\underset{1}{28}} \times \frac{30}{\underset{1}{29}} = 30$

(3) 原式 = $\overset{12}{7.2} \times \frac{7}{\underset{1}{6}} = 8.4127$

(4) 原式 = $(5\frac{1}{2} \times 2) \times (4\frac{2}{3} \div 2) = 11 \times 2\frac{1}{3} = 25\frac{2}{3}$

(5) 原式 = $26\frac{6}{7} \div 13\frac{3}{7} \div \frac{2}{9} = 2 \div \frac{2}{9} = 9$

(6) 原式 = $\overset{0.8}{6.4} \times \frac{21}{8} = 16.8$

(7) 原式 = $(3\frac{3}{4} \times 4) \times (16\frac{4}{9} \div 4) = 15 \times 4\frac{1}{9} = 60\frac{15}{9}$

(8) 原式 = $48\frac{8}{15} \div 12\frac{2}{5} \div \frac{4}{11} = 4 \div \frac{4}{11} = 11$

(9) 原式 = $36\frac{9}{17} \div 12\frac{3}{17} \div \frac{3}{14} = 3 \div \frac{3}{14} = 14$

(10) 原式 = $\overset{0.3}{3.9} \times \frac{15}{\underset{1}{13}} = 4.5$

(11) 原式 = $(3\frac{2}{5} \times 5) \times (10\frac{5}{23} \div 5) = 17 \times 2\frac{1}{23} = 34\frac{17}{23}$

(12) 原式 = $\overset{10.3}{20.6} \times \frac{3}{\underset{1}{2}} = 30.9$

$$(13) \text{原式} = 28 \frac{10}{11} \div 14 \frac{5}{11} \div \frac{4}{13} = 2 \div \frac{4}{13} = 6 \frac{1}{2}$$

$$(14) \text{原式} = (1 \frac{1}{9} \times 9) \times (9 \frac{9}{14} \div 9) = 10 \times 1 \frac{1}{14} = 10 \frac{5}{7}$$

$$(15) \text{原式} = \overset{1.05}{5.25} \times \frac{8}{\underset{1}{5}} = 8.4$$

$$(16) \text{原式} = 12 \frac{24}{31} \div 2 \frac{4}{31} \div \frac{6}{25} = 6 \div \frac{6}{25} = 25$$

$$*16. (1) \text{原式} = 3 \frac{3}{5} \div 1 \frac{1}{5} \times 2 \frac{2}{9} = 3 \times 2 \frac{2}{9} = 6 \frac{2}{3}$$

$$(2) \text{原式} = 4 \frac{1}{18} \times 3 \div 12 \frac{1}{6} = 12 \frac{1}{6} \div 12 \frac{1}{6} = 1$$

$$(3) \text{原式} = 5 \frac{2}{13} \div 5 \frac{2}{13} \div 7 = 1 \div 7 = \frac{1}{7}$$

$$(4) \text{原式} = \frac{3}{8} \times 2 \frac{2}{3} \div \frac{5}{6} = 1 \div \frac{5}{6} = 1 \frac{1}{5}$$

$$(5) \text{原式} = 6 \frac{3}{4} \div (\frac{5}{9} \times 1 \frac{4}{5}) = 6 \frac{3}{4} \div 1 = 6 \frac{3}{4}$$

$$(6) \text{原式} = 2 \frac{2}{5} \div 2 \times 1 \frac{1}{6} = 1 \frac{1}{5} \times 1 \frac{1}{6} = 1 \frac{2}{5}$$

$$(7) \text{原式} = 15 \frac{9}{14} \div 5 \frac{3}{4} \times 4 \frac{2}{11} = 3 \times 4 \frac{2}{11} = 12 \frac{6}{11}$$

$$(8) \text{原式} = 13 \frac{8}{25} \div 13 \frac{8}{25} \div 9 = 1 \div 9 = \frac{1}{9}$$

$$(9) \text{原式} = 2 \frac{1}{12} \times 3 \div 6 \frac{1}{4} = 6 \frac{1}{4} \div 6 \frac{1}{4} = 1$$

$$(10) \text{原式} = \frac{5}{12} \times 2 \frac{2}{5} \div \frac{1}{7} = 1 \div \frac{1}{7} = 7$$

$$(11) \text{原式} = 32 \frac{24}{37} \div 4 \frac{3}{37} \times 1 \frac{1}{5} = 8 \times 1 \frac{1}{5} = 9 \frac{3}{5}$$

$$(12) \text{原式} = 14 \frac{5}{9} \div 14 \frac{5}{9} \div \frac{1}{29} = 1 \div \frac{1}{29} = 29$$

- | | | | |
|----------------------|--------|----------------------|---------------------|
| 17. (1) 0 | (2) 64 | (3) 2 | (4) 1 |
| (5) $1 \frac{2}{7}$ | (6) 0 | (7) $\frac{1}{6}$ | (8) $6 \frac{3}{5}$ |
| (9) 0 | (10) 2 | (11) $\frac{3}{35}$ | (12) 7 |
| (13) $1 \frac{1}{9}$ | (14) 2 | (15) $1 \frac{1}{5}$ | (16) 0 |

$$(17) \frac{1}{35} \quad (18) 24 \quad (19) 1 \quad (20) 7\frac{4}{7}$$

$$(21) 0 \quad (22) \frac{4}{5} \quad (23) 0 \quad (24) 1$$

$$(25) 2\frac{1}{2} \quad (26) \frac{6}{7} \quad (27) \frac{4}{5} \quad (28) 1\frac{2}{3}$$

$$18.(1) \text{原式} = 4\frac{2}{3} - 92\frac{3}{4} \times 0 = 4\frac{2}{3} - 0 = 4\frac{2}{3}$$

$$(2) \text{原式} = 1\frac{3}{5} - 0.176 \times 0 = 1\frac{3}{5} - 0 = 1\frac{3}{5}$$

$$(3) \text{原式} = 0 \times 1\frac{1}{4} + 5 = 0 + 5 = 5$$

$$(4) \text{原式} = 18\frac{1}{4} \times 0 \times 16\frac{1}{4} + 11\frac{6}{7} = 0 + 11\frac{6}{7} = 11\frac{6}{7}$$

$$(5) \text{原式} = [(\frac{3}{4} - 0.5) + \frac{1}{4} \times 37.5\%] \times 0 = 0$$

$$(6) \text{原式} = 0 \div [(2\frac{3}{8} - 1\frac{5}{9}) \times 4\frac{3}{5} \times 2\frac{5}{16}] = 0$$

$$(7) \text{原式} = [12\frac{3}{4} + (5\frac{1}{2} \div 3\frac{2}{3} - 1\frac{3}{7})] \times 0 = 0$$

$$(8) \text{原式} = 1 - [1 - 0] \times \frac{3}{4} + 5 = 1 - \frac{3}{4} + 5 = 5\frac{1}{4}$$

$$(9) \text{原式} = 0 \div \frac{3}{8} + \frac{2}{11} = 0 + \frac{2}{11} = \frac{2}{11}$$

$$(10) \text{原式} = [1 + 0] \times 1\frac{1}{3} = 1 \times 1\frac{1}{3} = 1\frac{1}{3}$$

$$(11) \text{原式} = [4\frac{1}{4} - 4\frac{1}{4} \times 1] \times \frac{5}{6} = 0 \times \frac{5}{6} = 0$$

$$(12) \text{原式} = [13\frac{2}{3} + 0] \div 13\frac{2}{3} = 13\frac{2}{3} \div 13\frac{2}{3} = 1$$

$$19.(1) \text{原式} = \frac{\cancel{5}}{\cancel{3}} \times \frac{\cancel{1}}{\cancel{5}} + \frac{\cancel{1}}{\cancel{12}} \times \frac{\cancel{1}}{\cancel{4}} = \frac{1}{3} + \frac{1}{3} = \frac{2}{3}$$

$$(2) \text{原式} = \frac{\cancel{3}}{\cancel{10}} \times \frac{1}{\cancel{12}} - \frac{1}{\cancel{50}} \times \frac{1}{\cancel{44}} = \frac{3}{40} - \frac{1}{40} = \frac{1}{20}$$

$$(3) \text{原式} = \frac{1}{\cancel{7}} \times \frac{\cancel{1}}{3} + \frac{\cancel{1}}{\cancel{16}} \times \frac{\cancel{2}}{\cancel{3}} = \frac{1}{3} + \frac{2}{3} = 1$$

$$(4) \text{原式} = \frac{\cancel{1}}{\cancel{4}} \times \frac{\cancel{3}}{\cancel{4}} + \frac{\cancel{1}}{\cancel{5}} \times \frac{\cancel{6}}{\cancel{14}} = 3 + 1\frac{1}{5} = 4\frac{1}{5}$$

$$(5) \text{原式} = \frac{1}{2} \times \frac{5}{7} + \frac{1}{2} \times \frac{5}{7} = 2 \frac{1}{2} + 2 \frac{1}{2} = 5$$

$$(6) \text{原式} = \frac{1}{5} \times \frac{5}{36} - \frac{1}{7} \times \frac{1}{7} = \frac{1}{6} - \frac{1}{8} = \frac{1}{24}$$

$$(7) \text{原式} = \frac{1}{5} \times \frac{5}{16} + \frac{4}{15} \times \frac{5}{17} = 1 + 1 \frac{1}{3} = 2 \frac{1}{3}$$

$$(8) \text{原式} = \frac{1}{25} \times \frac{5}{6} + \frac{1}{5} \times \frac{1}{3} = \frac{1}{5} + \frac{1}{3} = \frac{8}{15}$$

$$(9) \text{原式} = \frac{2}{5} \times \frac{2}{7} - \frac{4}{5} \times \frac{1}{7} = 4 - \frac{4}{5} = 3 \frac{1}{5}$$

$$(10) \text{原式} = \frac{3}{4} \times \frac{5}{7} + \frac{1}{5} \times \frac{3}{20} = 7 \frac{1}{2} + 1 \frac{1}{2} = 9$$

$$(11) \text{原式} = \frac{1}{15} \times \frac{1}{2} + \frac{2}{5} \times \frac{5}{12} = \frac{1}{2} + 10 = 10 \frac{1}{2}$$

$$(12) \text{原式} = \frac{7}{6} \times \frac{4}{3} + \frac{5}{3} \times \frac{4}{3} = 3 \frac{1}{9} + 2 \frac{2}{9} = 5 \frac{1}{3}$$

$$20. (1) \text{原式} = 2.4 \times \frac{5}{6} - 1.6 \times \frac{1}{4} = 2 - 0.4 = 1.6$$

$$(2) \text{原式} = 2.5 \times \frac{2}{5} - 0.21 \times 3 = 1 - 0.63 = 0.37$$

$$(3) \text{原式} = 2.4 \times \frac{17}{6} + \frac{1}{8} \times \frac{3}{4} = 6.8 + 0.75 = 7.55$$

$$(4) \text{原式} = 3.5 \times \frac{5}{7} - 0.45 \times \frac{8}{5} = 2.5 - 0.4 = 2.1$$

$$(5) \text{原式} = \frac{\overset{4}{\cancel{28}}}{\underset{1}{\cancel{7}}} \times \frac{\overset{3}{\cancel{14}}}{\underset{1}{\cancel{7}}} - \overset{0.4}{\cancel{12}} \times \frac{4}{\underset{1}{\cancel{3}}} = 12 - 16 = 10.4$$

$$(6) \text{原式} = \frac{\overset{0.9}{\cancel{45}}}{\underset{1}{\cancel{5}}} \times \frac{8}{\underset{1}{\cancel{4}}} - \overset{0.25}{\cancel{0.75}} \times \frac{4}{\underset{1}{\cancel{3}}} = 7.2 - 1 = 6.2$$

$$(7) \text{原式} = \frac{\overset{0.37}{\cancel{259}}}{\underset{1}{\cancel{7}}} \times \frac{8}{\underset{2}{\cancel{4}}} + \frac{\overset{1}{\cancel{4}}}{\underset{2}{\cancel{8}}} \times \frac{\overset{1}{\cancel{4}}}{\underset{1}{\cancel{4}}} = 2.96 + 0.5 = 3.46$$

$$(8) \text{原式} = \frac{\overset{0.2}{\cancel{36}}}{\underset{1}{\cancel{18}}} \times \frac{5}{\underset{1}{\cancel{4}}} + \frac{\overset{0.3}{\cancel{33}}}{\underset{1}{\cancel{11}}} \times \frac{6}{\underset{1}{\cancel{4}}} = 1 + 18 = 2.8$$

$$(9) \text{原式} = \frac{\overset{0.04}{\cancel{0.16}}}{\underset{1}{\cancel{4}}} \times \frac{25}{\underset{1}{\cancel{4}}} - \frac{\overset{0.05}{\cancel{0.15}}}{\underset{1}{\cancel{3}}} \times \frac{2}{\underset{1}{\cancel{2}}} = 1 - 0.1 = 0.9$$

$$(10) \text{原式} = \frac{\overset{1.11}{\cancel{555}}}{\underset{1}{\cancel{5}}} \times \frac{6}{\underset{1}{\cancel{5}}} - \frac{\overset{1.2}{\cancel{24}}}{\underset{1}{\cancel{3}}} \times \frac{5}{\underset{1}{\cancel{3}}} = 6.66 - 6 = 0.66$$

$$(11) \text{原式} = \frac{\overset{0.2}{\cancel{84}}}{\underset{1}{\cancel{42}}} \times \frac{5}{\underset{1}{\cancel{4}}} + \frac{\overset{0.1}{\cancel{04}}}{\underset{1}{\cancel{4}}} \times \frac{5}{\underset{1}{\cancel{4}}} = 1 + 0.5 = 1.5$$

$$(12) \text{原式} = \frac{\overset{0.33}{\cancel{231}}}{\underset{1}{\cancel{7}}} \times \frac{4}{\underset{1}{\cancel{7}}} + \frac{\overset{0.6}{\cancel{54}}}{\underset{1}{\cancel{9}}} \times \frac{7}{\underset{1}{\cancel{9}}} = 1.32 + 4.2 = 5.52$$

$$21. (1) \text{原式} = 0.53 - 0 + 0.07 = 0.53 + 0.07 = 0.6$$

$$(2) \text{原式} = [1.9 + 0] \div \frac{19}{50} = \frac{19}{19} \times \frac{50}{19} = 5$$

$$(3) \text{原式} = 3 - [1 + 0] \times 1\frac{1}{3} = 3 - 1\frac{1}{3} = 1\frac{2}{3}$$

$$(4) \text{原式} = 0 \div (6\frac{1}{12} - 4\frac{8}{15} \div 3\frac{2}{5}) = 0$$

$$(5) \text{原式} = [1\frac{3}{8} + 0] \times \frac{8}{11} = 1\frac{3}{8} \div \frac{8}{11} = 1$$

$$(6) \text{原式} = [1.9 + 1.9 \times 1] \div 1 = 3.8 \div 1 = 3.8$$

$$(7) \text{原式} = \frac{\overset{3}{\cancel{12}}}{\underset{1}{\cancel{4}}} \times \frac{1}{\underset{2}{\cancel{10}}} + \frac{\overset{1}{\cancel{14}}}{\underset{1}{\cancel{8}}} \times \frac{\overset{1}{\cancel{8}}}{\underset{1}{\cancel{14}}} = \frac{3}{8} + 1 = 1\frac{3}{8}$$

$$(8) \text{原式} = \frac{\overset{3}{\cancel{6}}}{\underset{1}{\cancel{5}}} \times \frac{2}{\underset{1}{\cancel{3}}} + \frac{\overset{1}{\cancel{2}}}{\underset{1}{\cancel{10}}} \times \frac{9}{\underset{5}{\cancel{10}}} = 1\frac{1}{5} + 1\frac{4}{5} = 3$$

$$(9) \text{原式} = \frac{\overset{1}{\cancel{5}}}{\underset{1}{\cancel{5}}} \times \frac{\overset{1}{\cancel{5}}}{\underset{1}{\cancel{5}}} + \frac{\overset{11}{\cancel{22}}}{\underset{3}{\cancel{6}}} \times \frac{\overset{1}{\cancel{6}}}{\underset{1}{\cancel{6}}} = 1 + 3\frac{2}{3} = 4\frac{2}{3}$$

$$(10) \text{原式} = \frac{5}{7} \times \frac{2}{14} - \frac{1}{2} \times \frac{1.8}{54} = 10 - 18 = 8.2$$

$$(11) \text{原式} = \frac{1}{33} \times \frac{1}{14} + \frac{1}{58} \times \frac{1}{13} = \frac{1}{2} + \frac{1}{2} = 1$$

$$(12) \text{原式} = \frac{0.4}{16} \times \frac{25}{4} - \frac{2}{5} \times \frac{0.25}{125} = 10 - 0.5 = 9.5$$

$$(13) \text{原式} = \frac{0.4}{28} \times \frac{15}{7} - \frac{0.6}{96} \times \frac{5}{16} = 6 - 3 = 3$$

$$(14) \text{原式} = \frac{1}{13} \times \frac{13}{42} + \frac{5}{7} \times \frac{3}{24} = \frac{1}{2} + 15 = 15\frac{1}{2}$$

$$(15) \text{原式} = \frac{11}{2} \times \frac{1}{3} - \frac{5}{12} \times \frac{1}{13} = 11 - 2\frac{1}{2} = 8\frac{1}{2}$$

$$(16) \text{原式} = \frac{2.8}{84} \times \frac{5}{2} - \frac{0.5}{35} \times \frac{10}{7} = 14 - 5 = 9$$

$$(17) \text{原式} = \frac{2.3}{46} \times \frac{5}{2} + \frac{0.3}{24} \times \frac{3}{8} = 11.5 + 0.9 = 12.4$$

$$(18) \text{原式} = \frac{0.05}{65} \times \frac{6}{13} + \frac{1.2}{36} \times \frac{5}{3} = 0.3 + 6 = 6.3$$

$$*22.(1) \text{原式} = \frac{3-2}{2 \times 3} \times \frac{3+2}{2 \times 3} \div \frac{9-6}{6 \times 9} = \frac{1}{6} \times \frac{5}{6} \div \frac{1}{18} = \frac{5}{36} \times 18 = 2\frac{1}{2}$$

$$(2) \text{原式} = 2.7 \times \frac{8}{9} + \left[\left(\frac{1}{3} + \frac{1}{4} \right) - \left(\frac{1}{4} + \frac{1}{5} \right) \right] \times 7\frac{1}{2} = 2.4 + \left[\frac{1}{3} - \frac{1}{5} \right] \times 7\frac{1}{2}$$

$$= 2.4 + \frac{2}{15} \times 7\frac{1}{2} = 2.4 + 1 = 3.4$$

$$(3) \text{原式} = \frac{21}{13} \times \frac{13}{42} + 3\frac{9}{11} \div 1\frac{3}{11} \times 1\frac{2}{3} = \frac{1}{2} + 3 \times 1\frac{2}{3} = \frac{1}{2} + 5 = 5\frac{1}{2}$$

$$(4) \text{原式} = 17\frac{5}{8} \div 17\frac{5}{8} \div \frac{1}{31} - 1\frac{4}{7} = 1 \div \frac{1}{31} - 1\frac{4}{7} = 31 - 1\frac{4}{7} = 29\frac{3}{7}$$

$$(5) \text{原式} = 8\frac{1}{2} - \frac{5}{9} \times 1\frac{4}{5} \div \frac{2}{17} + \frac{5}{6} = 8\frac{1}{2} - 1 \div \frac{2}{17} + \frac{5}{6} = 8\frac{1}{2} - 8\frac{1}{2} + \frac{5}{6} = \frac{5}{6}$$

$$(6) \text{原式} = 4\frac{1}{12} \times 24 \div 16\frac{1}{3} - 5\frac{5}{6} = 98 \times \frac{3}{49} - 5\frac{5}{6} = 6 - 5\frac{5}{6} = \frac{1}{6}$$

(三) 整数简便计算

1. $54 + 90 - 1$; $175 + 100 - 2$; $300 - 1 + 84$; $343 + 2000 + 2$

2.

(1) $73 + 98 = 73 + 100 - 2 = 171$

(2) $384 + 99 = 384 + 100 - 1 = 483$

(3) $89 + 197 = 89 + 200 - 3 = 286$

(4) $196 + 68 = 200 - 4 + 68 = 264$

(5) $195 + 35 = 200 - 5 + 35 = 230$

(6) $996 + 548 = 1000 - 4 + 548 = 1544$

(7) $1895 + 247 = 1900 - 5 + 247 = 2142$

(8) $3007 + 293 = 3000 + 7 + 293 = 3300$

3.

(1) $185 + 395 + 2096 = 185 + 400 - 5 + 2000 + 100 - 4$
 $= 185 + 400 + 2000 + 100 - 5 - 4 = 2676$

(2) $3023 + 98 + 279 = 3023 + 100 - 2 + 280 - 1$
 $= 3023 + 100 + 280 - 2 - 1 = 3400$

(3) $276 + 998 + 96 = 276 + 1000 - 2 + 100 - 4$
 $= 276 + 1000 + 100 - 2 - 4 = 1370$

(4) $4604 + 396 + 2798 = 4600 + 4 + 400 - 4 + 2800 - 2$
 $= 4600 + 400 + 2800 + 4 - 4 - 2 = 7798$

(5) $345 + 97 + 195 = 345 + 100 - 3 + 200 - 5$
 $= 345 + 100 + 200 - 3 - 5 = 637$

(6) $6182 + 1097 + 2996$
 $= 6182 + 1000 + 100 - 3 + 3000 - 4$
 $= 6182 + 1000 + 100 + 3000 - 3 - 4$
 $= 10275$

(7) $758 + 204 + 396 = 758 + 200 + 4 + 400 - 4$
 $= 758 + 200 + 400 + 4 - 4 = 1358$

(8) $5000 + 2006 + 1994 = 5000 + 2000 + 6 + 2000 - 6$
 $= 5000 + 2000 + 2000 + 6 - 6 = 9000$

4.

(1) $48 + 67 + 52 = 48 + 52 + 67 = 100 + 67 = 167$

(2) $128 + 47 + 53 = 47 + 53 + 128 = 100 + 128 = 228$

(3) $75 + 69 + 25 + 31 = (75 + 25) + (69 + 31) = 100 + 100 = 200$

(4) $99 + 126 + 101 = 99 + 101 + 126 = 200 + 126 = 326$

(5) $167 + 178 + 133 + 222 = (167 + 133) + (178 + 222)$
 $= 300 + 400 = 700$

(6) $247 + 464 + 453 + 236 = (247 + 453) + (464 + 236)$
 $= 700 + 700 = 1400$

(7) $543 + 364 + 157 + 146 = (543 + 157) + (364 + 146)$
 $= 700 + 500 = 1200$

(8) $1528 + 457 + 272 + 543 = (1528 + 272) + (457 + 543)$
 $= 1800 + 1000 = 2800$

(9) $244 + 97 + 25 + 156 + 103 = (244 + 156) + (97 + 103) + 25$
 $= 400 + 200 + 25 = 625$

$$(10) 1927 + 798 + 465 + 202 + 473 + 135$$

$$= (1927 + 473) + (798 + 202) + (465 + 135)$$

$$= 2400 + 1000 + 600 = 4000$$

$$* (11) 12 + 56 + 9 + 34 + 78 + 87 + 21 + 65 + 43$$

$$= (12 + 78) + (56 + 34) + (87 + 43) + 65$$

$$= 90 + 90 + 130 + 65$$

$$= 375$$

$$* (12) 223 + 654 + 987 + 556 + 321 + 889$$

$$= (223 + 987) + (654 + 556) + (321 + 889)$$

$$= 2010 + 2010 + 2010$$

$$= 2010 \times 3 = 6030$$

$$* (13) 197 + 203 + 201 + 198 + 202 + 199$$

$$= (197 + 203) + (201 + 199) + (198 + 202)$$

$$= 400 + 400 + 400$$

$$= 400 \times 3 = 1200$$

$$* (14) 123 + 234 + 345 + 456 + 567 + 678$$

$$= (123 + 567) + (234 + 456) + (678 + 12 - 12 + 345)$$

$$= 690 + 690 + 690 + (345 - 12)$$

$$= 690 \times 3 + 333 = 2403$$

5.

$$(1) 4327 - 299 = 4327 - 300 + 1 = 4027 + 1 = 4028$$

$$(2) 2654 - 1097 = 2654 - 1000 - 100 + 3 = 1557$$

$$(3) 1473 - 396 = 1473 - 400 + 4 = 1077$$

$$(4) 4603 - 398 = 4603 - 400 + 2 = 4205$$

$$(5) 445 - 97 - 295 = 445 - 100 + 3 - 300 + 5 = 445 - 100 - 300 + 3 + 5$$

$$= 53$$

$$(6) 4182 - 1097 - 2996$$

$$= 4182 - 1000 - 100 + 3 - 3000 + 4$$

$$= 4182 - 1000 - 100 - 3000 + 3 + 4$$

$$= 89$$

$$(7) 887 - 53 - 40 - 7 = 887 - (53 + 7 + 40) = 887 - 100 = 787$$

$$(8) 1124 - 268 - 24 - 732 = (1124 - 24) - (268 + 732) = 1100 - 1000 = 100$$

6.

$$(1) 473 - 157 - 183 = 473 - 183 - 157 = 290 - 157 = 133$$

$$(2) 891 - 127 - 191 - 73 = 891 - 191 - (127 + 73) = 700 - 200 = 500$$

$$(3) 587 - 279 - 7 = 587 - 7 - 279 = 580 - 279 = 301$$

$$(4) 384 - 127 - 4 - 80 = 384 - 4 - 80 - 127 = 300 - 127 = 173$$

$$(5) 783 - (183 + 246) = 783 - 183 - 246 = 600 - 246 = 354$$

$$(6) 986 - (386 + 175) = 986 - 386 - 175 = 600 - 175 = 425$$

$$(7) 1429 - (327 + 102 + 500) = 1429 - 429 - 500 = 1000 - 500 = 500$$

$$* (8) 40000 - 7334 - 23571 - 3945$$

$$= 40000 - (7334 + 23571 + 3945)$$

$$= 40000 - 34850 = 5150$$

7.

- (1) $682 - (582 - 163) = 682 - 582 + 163 = 100 + 163 = 263$
- (2) $786 - (386 - 157) = 786 - 386 + 157 = 400 + 157 = 557$
- (3) $864 - (464 - 186) = 864 - 464 + 186 = 400 + 186 = 586$
- (4) $4568 - 919 + 419 = 4568 - (919 - 419) = 4568 - 500 = 4068$
- (5) $5813 - 843 + 243 = 5813 - (843 - 243) = 5813 - 600 = 5213$
- (6) $5135 - 573 + 473 = 5135 - (573 - 473) = 5135 - 100 = 5035$
- (7) $648 + 298 = 648 + 300 - 2 = 948 - 2 = 946$
- (8) $1527 + 999 = 1527 + 1000 - 1 = 2527 - 1 = 2526$
- (9) $424 - 297 = 424 - 300 + 3 = 124 + 3 = 127$
- (10) $1316 - 998 = 1316 - 1000 + 2 = 318$

8.

- (1) $387 + 496 + 253 = 387 + 253 + 496 = 640 + 496 = 1136$
- (2) $333 + 517 + 777 + 483 = (333 + 777) + (517 + 483) = 1000 + 1000 = 2000$
- (3) $272 + 619 + 378 = 272 + 378 + 619 = 650 + 619 = 1269$
- (4) $425 + 262 + 375 + 238 = (425 + 375) + (262 + 238) = 800 + 500 = 1300$
- (5) $292 + 168 + 108 + 142 = (292 + 108) + (168 + 142) = 400 + 310 = 710$
- (6) $482 + 569 + 218 + 331 = (482 + 218) + (569 + 331) = 700 + 900 = 1600$
- (7) $631 + 420 + 569 + 9580 = (631 + 569) + (420 + 9580) = 1200 + 10000 = 11200$
- (8) $836 + 623 + 468 + 164 = (836 + 164) + (623 + 468) = 1000 + 1091 = 2091$

9.

- (1) $187 + 99 = 187 + 100 - 1 = 286$
- (2) $578 + 298 = 578 + 300 - 2 = 876$
- (3) $838 + 97 = 838 + 100 - 3 = 935$
- (4) $396 + 287 = 400 + 287 - 4 = 683$
- (5) $482 - 98 = 482 - 100 + 2 = 384$
- (6) $874 - 399 = 874 - 400 + 1 = 475$
- (7) $914 - 395 = 914 - 400 + 5 = 519$
- (8) $1567 - 1067 = 1567 - 1000 - 67 = 500$
- (9) $567 + 201 = 567 + 200 + 1 = 768$
- (10) $2027 - 127 = 2027 - 100 - 27 = 1900$
- (11) $1518 - 328 - 72 = 1518 - (328 + 72) = 1518 - 400 = 1118$
- (12) $4569 - 647 - 353 = 4569 - (647 + 353) = 4569 - 1000 = 3569$
- (13) $1037 - 686 - 37 = 1037 - 37 - 686 = 1000 - 686 = 314$
- (14) $4827 - 2385 - 827 = 4827 - 827 - 2385 = 4000 - 2385 = 1615$
- (15) $791 - 48 - 191 - 252 = 791 - 191 - (48 + 252) = 600 - 300 = 300$
- (16) $935 - 137 - 263 - 235 = 935 - 235 - (137 + 263) = 700 - 400 = 300$
- (17) $587 - (69 + 287 + 31) = 587 - 287 - 100 = 200$
- (18) $669 - (222 + 179 + 169) = 669 - 169 - 400 = 100$

$$(19) 429 - (129 - 72) = 429 - 129 + 72 = 372$$

$$(20) 737 - (337 - 299) = 737 - 337 + 299 = 699$$

10.

$$(1) 821 - 456 + 356 = 821 - (456 - 356) = 821 - 100 = 721$$

$$(2) 4839 - 769 + 769 = 4839 - (769 - 769) = 4839 - 0 = 4839$$

$$(3) 447 + (253 + 317 + 83) = 447 + 253 + 400 = 1100$$

$$(4) 38 + 29 + 36 + 27 + 28$$

$$= 30 + 8 + 30 - 1 + 30 + 6 + 30 - 3 + 30 - 2$$

$$= 30 \times 5 + 8 + 6 - 1 - 3 - 2 = 150 + 8 + 6 - 1 - 3 - 2 = 158$$

$$(5) 36 + 55 + 25 + 44 + 42 + 48 = (36 + 44) + (42 + 48) + (55 + 25)$$

$$= 80 + 90 + 80 = 80 \times 2 + 90 = 250$$

$$(6) 657 + 648 + 672 + 666 + 673$$

$$= 660 - 3 + 660 - 12 + 660 + 12 + 660 + 6 + 660 + 13$$

$$= 660 \times 5 - 3 - 12 + 12 + 6 + 13 = 3300 + 16 = 3316$$

$$(7) 637 - (643 - 263) - 67 = 637 + 263 - 643 - 67$$

$$= 900 - (643 + 67) = 900 - 710 = 190$$

$$(8) 87 + 74 + 86 + 84 + 76 + 77 + 80 + 88 + 82 + 84$$

$$= 80 + 7 + 80 - 6 + 80 + 6 + 80 + 4 + 80 - 4 + 80 - 3 + 80 + 80 + 8 + 80 + 2 + 80 + 4$$

$$= 80 \times 10 + 7 - 6 + 6 + 4 - 4 - 3 + 2 + 4$$

$$= 800 + 10 = 810$$

$$(9) 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14$$

$$= (7 + 14) \times 8 \div 2 = 21 \times 8 \div 2 = 84$$

$$\text{或} = (7 + 13) + (8 + 12) + (9 + 11) + 10 + 14$$

$$= 20 + 20 + 20 + 10 + 14 = 84$$

$$(10) 10 + 15 + 20 + 25 + 30 + \dots + 100$$

$$= (5 + 100) \times 20 \div 2 - 5 = 1045$$

$$(11) 9 + 18 + 27 + 36 + 45 + \dots + 180$$

$$= (9 + 180) \times 20 \div 2 = 189 \times 20 \div 2 = 1890$$

11. (略)

12.

$$37 \times 20 \times 5 = (20 \times 5) \times 37 = 100 \times 37 = 3700$$

$$15 \times 71 \times 4 = (15 \times 4) \times 71 = 60 \times 71 = 4260$$

$$82 \times 25 \times 40 = (25 \times 40) \times 82 = 1000 \times 82 = 82000$$

$$125 \times 397 \times 8 = (125 \times 8) \times 397 = 1000 \times 397 = 397000$$

$$326 \times 4 \times 15 \times 25 = (4 \times 25) \times (15 \times 2) \times 163 = 100 \times 30 \times 163 = 789000$$

$$4 \times 783 \times 250 = (4 \times 250) \times 783 = 1000 \times 783 = 783000$$

$$57 \times 1250 \times 41 \times 8 = (1250 \times 8) \times (57 \times 41) = 10000 \times 2337 = 23370000$$

$$5 \times (61 \times 4) = 5 \times 4 \times 61 = 20 \times 61 = 1220$$

$$125 \times (31 \times 8) = 125 \times 8 \times 31 = 1000 \times 31 = 31000$$

$$50 \times 88 = 50 \times 8 \times 11 = 400 \times 11 = 4400$$

$$25 \times 32 = (25 \times 4) \times 8 = 100 \times 8 = 800$$

$$125 \times 56 = (125 \times 8) \times 7 = 1000 \times 7 = 7000$$

$$125 \times 64 \times 25 = (125 \times 8) \times (25 \times 4 \times 2) = 1000 \times 200 = 200000$$

$$26 \times 72 \times 625 = (26 \times 9) \times (625 \times 8) = 234 \times 5000 = 1170000$$

$$37 \times 12 \times 25 = (4 \times 25) \times (37 \times 3) = 100 \times 111 = 11100$$

$$84 \times (25 \times 37) = (4 \times 25) \times (37 \times 3 \times 7) = 100 \times 777 = 77700$$

$$43 \times 91 + 91 \times 57 = 91 \times (43 + 57) = 91 \times 100 = 9100$$

$$58 \times 46 + 46 + 41 \times 46 = 46 \times (58 + 1 + 41) = 46 \times 100 = 4600$$

$$55 \times 102 = 55 \times (100 + 2) = 5500 + 110 = 5610$$

$$597 \times 8 + 24 = 597 \times 8 + 3 \times 8 = 8 \times (597 + 3) = 8 \times 600 = 4800$$

$$(375 - 9) \times 8 = 375 \times 8 - 9 \times 8 = 3000 - 72 = 2928$$

$$473 \times 50 + 50 \times 127 = 50 \times (473 + 127) = 50 \times 600 = 30000$$

$$68 \times 75 - 68 \times 66 + 68 = 68 \times (75 - 66 + 1) = 68 \times 10 = 680$$

$$438 \times 298 = 438 \times (300 - 2) = 438 \times 300 - 438 \times 2 = 131400 - 876$$

$$= 130524$$

$$4125 \times 800 = (4000 + 125) \times 800 = 4000 \times 800 + 125 \times 800$$

$$= 3200000 + 100000 = 3300000$$

$$74 \times 139 - 38 \times 74 - 37 \times 2 = 74 \times (139 - 38 - 1) = 74 \times 100 = 7400$$

$$895 \times 125 - 125 \times 94 - 25 \times 5 = 125 \times (895 - 94 - 1) = 125 \times 800$$

$$= 100000$$

$$1274 \times 5 = 637 \times (2 \times 5) = 637 \times 10 = 6370$$

13.

$$(1) 4120 \div 5 = (4120 \times 2) \div (5 \times 2) = 8240 \div 10 = 824$$

$$(2) 1035 \div 5 = (1035 \times 2) \div (5 \times 2) = 2070 \div 10 = 207$$

$$(3) 42600 \div 25 = (42600 \times 4) \div (25 \times 4) = 170400 \div 100 = 1704$$

$$(4) 9750 \div 25 = (9750 \times 4) \div (25 \times 4) = 39000 \div 100 = 390$$

$$(5) 72000 \div 125 = (72000 \times 8) \div (125 \times 8) = 576000 \div 1000 = 576$$

$$(6) 4125 \div 125 = (4000 + 125) \div 125 = 32 + 1 = 33$$

或： $4125 \div 125 = (4125 \times 8) \div (125 \times 8)$

$$(7) (72 + 56) \div 8 = 72 \div 8 + 56 \div 8 = 9 + 7 = 16$$

$$(8) 105 \div 72 + 456 \div 72 + 447 \div 72 = (105 + 456 + 447) \div 72$$

$$= 1008 \div 72 = 14$$

$$(9) (150 - 75) \div 15 = 150 \div 15 - 75 \div 15 = 10 - 5 = 5$$

$$* (10) 3895 \div 41 - 1058 \div 41 - 828 \div 41$$

$$= (3895 - 1058 - 828) \div 41 = 2009 \div 41 = 49$$

$$* (11) 2280 \div 34 - 648 \div 34 + 476 \div 34$$

$$= (2280 - 648 + 476) \div 34 = 2108 \div 34 = 62$$

$$* (12) 1675 \div 57 + 1478 \div 57 - 531 \div 57$$

$$= (1675 + 1478 - 531) \div 57 = 2622 \div 57 = 46$$

$$(13) 7200 \div (30 \times 4) = 7200 \div 30 \div 4 = 60$$

$$(14) 5400 \div 15 \div 4 = 5400 \div (15 \times 4) = 5400 \div 60 = 90$$

$$(15) 8100 \div (27 \div 7) = 8100 \div 27 \times 7 = 300 \times 7 = 2100$$

$$(16) 567 \div 105 \times 35 = 567 \div (105 \div 35) = 567 \div 3 = 189$$

$$(17) 84 \div 72 \times 36 \div 21 = 84 \div 21 \times 36 \div 72 = 144 \div 72 = 2$$

$$(18) 132 \times 288 \div (24 \times 11) = 132 \div 11 \times 288 \div 24 = 12 \times 12 = 144$$

$$\begin{aligned}
& * (19) 90000 \div 125 \div 2 \div 5 \div 8 \\
& \quad = 90000 \div (125 \times 8 \times 2 \times 5) = 90000 \div 10000 = 9 \\
(20) & 7344000 \div 625 \div 72 = 7344000 \div 72 \div 625 = 102000 \div 625 = 160 \\
14. & 3 \times 999 + 3 + 99 \times 8 + 8 + 2 \times 9 + 9 \\
& \quad = 3 \times (999 + 1) + 8 \times (99 + 1) + 9 \times (2 + 1) \\
& \quad = 3 \times 1000 + 8 \times 100 + 3 \times 10 - 3 \\
& \quad = 3000 + 800 + 30 - 3 = 3827 \\
125 \times & 128 - 125 \times 27 - 125 \\
& \quad = 125 \times 128 - 125 \times 27 - 125 \times 1 \\
& \quad = 125 \times (128 - 27 - 1) \\
& \quad = 125 \times 100 = 12500 \\
* (11 \times & 9 + 11) \times (111 \times 999 + 111) \times (7 \times 11 \times 13 - 1001) \\
& \quad = [11 \times (9 + 1) \times 111 \times (999 + 1)] \times (1001 - 1001) \\
& \quad = 110 \times 111000 \times 0 = 0 \\
(24 \times & 21 \times 45) \div (15 \times 4 \times 7) \\
& \quad = (24 \div 4) \times (21 \div 7) \times (45 \div 15) \\
& \quad = 6 \times 3 \times 3 = 54 \\
(125 \times & 72 \times 24) \div 9 \div 8 \\
& \quad = (125 \times 8 \times 9 \times 24) \div 9 \div 8 \\
& \quad = 1000 \times (24 \div 8) \times (9 \div 9) \\
& \quad = 1000 \times 3 \times 1 = 3000 \\
15. & \\
(1) & 9 + 99 + 999 + 9999 + 99999 \\
& \quad = 10 - 1 + 100 - 1 + 1000 - 1 + 10000 - 1 + 100000 - 1 \\
& \quad = 111110 - 5 = 111105 \\
(2) & 2772 \div 28 = (99 \times 28) \div 28 = 99 \times (28 \div 28) = 99 \\
(3) & 579999971 \div 29 = (19999999 \times 29) \div 29 = 19999999 \times (29 \div 29) \\
& \quad = 19999999 \\
(4) & 1986 + 331 \times 594 = 331 \times 6 + 331 \times 594 = 331 \times (6 + 594) \\
& \quad = 331 \times 600 = 198600 \\
(5) & 1111 \times 58 + 6666 \times 7 = 1111 \times 58 + 1111 \times 6 \times 7 = 1111 \times (58 \\
& \quad + 42) = 1111 \times 100 = 111100 \\
(6) & 99999 \times 77778 + 33333 \times 66666 \\
& \quad = 99999 \times 77778 + 33333 \times 3 \times 22222 \\
& \quad = 99999 \times (77778 + 22222) \\
& \quad = 99999 \times 100000 = 9999900000 \\
(7) & 321 \times 17 + 107 \times 39 + 1070 \\
& \quad = 321 \times (10 + 7) + (100 + 7) \times 39 + 1070 \\
& \quad = 3210 + 321 \times 7 + 3900 + 39 \times 7 + 1070 \\
& \quad = (3210 + 3900 + 1070) + 7 \times (321 + 39) \\
& \quad = 8180 + 2520 = 10700 \\
(8) & 2999998 + 299997 + 29996 + 2995 + 294 + 23 \\
& \quad = 3000000 - 2 + 300000 - 3 + 30000 - 4 + 300 - 5 + 300 - 6 + 30 - 7 \\
& \quad = 3333330 - 27 = 3333303
\end{aligned}$$

16.

- (1) $54 + 38 + 46 = (54 + 46) + 38 = 100 + 38 = 138$
(2) $37 + 44 + 56 = (44 + 56) + 37 = 100 + 37 = 137$
(3) $88 + (37 + 22) = (88 + 22) + 37 = 100 + 37 = 137$
(4) $67 + 15 + 33 = (67 + 33) + 15 = 100 + 15 = 115$
(5) $375 + 342 + 658 + 625 = (375 + 625) + (342 + 658)$
 $= 1000 + 1000 = 2000$
(6) $872 + 74 + 36 + 163 = (827 + 163) + (74 + 36)$
 $= 1000 + 100 = 1100$
(7) $428 + 267 + (733 + 572) = (428 + 572) + (267 + 733)$
 $= 1000 + 1000 = 2000$
(8) $536 + (541 + 464) + 469 = (536 + 464) + (541 + 469)$
 $= 1000 + 1000 = 2000$
(9) $327 + 108 = 327 + 100 + 8 = 427 + 8 = 435$
(10) $325 + 98 = 325 + 100 - 2 = 425 - 2 = 423$
(11) $872 - 48 - 272 = 872 - 272 - 48 = 600 - 48 = 552$
(12) $384 - (184 + 36) = 384 - 184 - 36 = 200 - 36 = 164$
(13) $528 - (138 - 72) = 528 - 138 + 72 = (528 + 72) - 138 = 462$
(14) $387 - 124 = 387 - 100 + 24 = 263$
(15) $564 - 387 + 187 = 564 - (387 - 187) = 564 - 200 = 364$
(16) $843 + 78 - 43 = 843 - 43 + 78 = 800 + 78 = 878$
(17) $274 - 87 + 26 - 13 = (274 + 26) - (87 + 13) = 300 - 100 = 200$
(18) $936 - 867 - 99 + 267 = (936 - 100 + 1) - (867 - 267)$
 $= 837 - 600 = 237$
(19) $813 - (613 - 237) = 813 - 613 + 237 = 200 + 237 = 437$
(20) $537 - (543 - 163) - 57 = (537 + 163) - (543 + 57)$
 $= 700 - 600 = 100$
(21) $36 \times (468 \div 9) = 36 \div 9 \times 468 = 4 \times 468 = 1872$
(22) $58 \div 17 \times 34 = 58 \times (34 \div 17) = 58 \times 2 = 116$
(23) $48 \times 5 = (48 \div 2) \times (5 \times 2) = 24 \times 10 = 240$
(24) $24 \times 25 = (24 \div 4) \times (25 \times 4) = 6 \times 100 = 600$
(25) $56 \times 125 = (56 \div 8) \times (125 \times 8) = 7 \times 1000 = 7000$
(26) $26 \times 64 \times 625 = (26 \times 8) \times (625 \times 8) = 208 \times 5000 = 1040000$
(27) $84 \times (25 \times 37) = (21 \times 37) \times (25 \times 4) = 777 \times 100 = 77700$
(28) $68 \times 36 + 36 + 31 \times 36 = 68 \times 36 + 36 \times 1 + 31 \times 36$
 $= 36 \times (68 + 1 + 31) = 36 \times 100 = 3600$
(29) $84 \times 29 - 18 \times 84 - 21 \times 4 = 84 \times 29 - 18 \times 84 - 84$
 $= 84 \times (29 - 18 - 1) = 84 \times 10 = 840$
(30) $72 \times (51 \div 12) = 72 \div 12 \times 51 = 6 \times 51 = 306$
(31) $4321 - 1996 + 1998 = 4321 - 2000 + 4 + 2000 - 2 = 4323$
(32) $6000 + 888 - 887 + 889 - 887$
 $= 6000 + 890 - 2 - 890 + 3 + 890 - 1 - 890 + 3 = 6003$
(33) $3996 + 1995 - 1996 - 2998 + 1989$
 $= 4000 + 2000 - 5 - 2000 + 4 - 3000 + 2 + 2000 - 11$

$$=4000 + 2000 - 2000 - 3000 + 2000 - 5 - 11 + 4 + 2$$

$$=3000 - 10 = 2990$$

$$(34) 3542 - 809 = 3542 - 800 - 9 = 2733$$

$$(35) 1047 - 437 - 163 = 1000 + 47 - (437 + 163)$$

$$= 1000 - 600 + 47 = 447$$

$$(36) 8 + 98 + 998 + 9998 + 99998$$

$$= 10 - 2 + 100 - 2 + 1000 - 2 + 10000 - 2 + 100000 - 2$$

$$= 10 + 100 + 1000 + 10000 + 100000 - 2 \times 5$$

$$= 111110 - 10 = 111100$$

$$* (37) 1 + 2 + 3 + 4 + 5 + \dots + 40 = (1 + 40) \times 40 \div 2 = 820$$

$$* (38) 10000 - 1 - 2 - 3 - 4 - \dots - 80$$

$$= 10000 - (1 + 2 + 3 + 4 + \dots + 80)$$

$$= 10000 - (1 + 80) \times 80 \div 2$$

$$= 10000 - 3240 = 6760$$

$$* (39) 85 + 86 + 87 + 88 + 89 + \dots + 200$$

$$= (1 + 2 + 3 + 4 + \dots + 200) - (1 + 2 + 3 + 4 + \dots + 84)$$

$$= (1 + 200) \times 200 \div 2 - (1 + 84) \times 84 \div 2$$

$$= 20100 - 3570 = 16530$$

$$* (40) 100 + 102 + 104 + 106 + \dots + 398$$

$$= 200 \times (200 - 1) - 50 \times (50 - 1)$$

$$= 39800 - 2450 = 37350$$

此题可以这样想： $0 + 2 + 4 + 6 + \dots + 60$

因为 $n = (60 + 2) \div 2 = 31$

所以 $0 + 2 + 4 + 6 + 8 + \dots + 60$

$$= (31 - 1) \times 31$$

$$= 30 \times 31 = 930$$

又因为：

$$0 + 2 + 4 + 6 + \dots + 398$$

$$= (200 - 1) \times 200 = 39800$$

$$n = (398 + 2) \div 2 = 400 \div 2 = 200$$

$$0 + 2 + 4 + 6 + \dots + 98$$

$$= (50 - 1) \times 50 = 2450$$

$$n = (98 + 2) \div 2 = 100 \div 2 = 50$$

所以 $100 + 102 + 104 + 106 + \dots + 398$

$$= (200 - 1) \times 200 - (50 - 1) \times 50$$

$$= 39800 - 2450 = 37350$$

(四) 小数简算

1. (略)

2.

$$(1) 7.6 + 9.9 = 7.6 + 10 - 0.1 = 17.5$$

$$(2) 13.7 + 0.98 = 13.7 + 1 - 0.02 = 14.7 - 0.02 = 14.68$$

$$(3) 8.4 + 1.02 = 8.4 + 1 + 0.02 = 9.42$$

- (4) $7.8 + 1.01 = 7.8 + 1 + 0.01 = 8.81$
- (5) $4.98 + 1.97 = 5 - 0.02 + 2 - 0.03 = 6.95$
- (6) $4.8 - 0.97 = 5 - 0.2 - 1 + 0.03 = 3.83$
- (7) $3.05 - 0.99 = 3.05 - 1 + 0.01 = 2.04$
- (8) $4.3 - 1.02 = 4.3 - 1 - 0.02 = 3.28$
- (9) $4.71 - 2.03 = 4.71 - 2 - 0.03 = 2.68$
- (10) $7.5 - 2.97 = 7.5 - 3 + 0.03 = 4.53$
- (11) $10.04 + 2.95 = 10.04 + 3 - 0.05 = 12.99$
- (12) $16.94 - 12.98 = 17 - 0.06 - 13 + 0.02 = 3.96$
- (13) $13.47 - 7.89 = 13 + 0.47 - 8 + 0.11$
 $= (13 - 8) + (0.47 + 0.11) = 5 + 0.58 = 5.58$
- (14) $230.39 - 112.48 = 230 + 0.39 - 113 + 0.52$
 $= (230 - 113) + (0.39 + 0.52) = 117 + 0.91 = 117.91$
- (15) $225.76 - 113.88 = 225 + 0.76 - 114 + 0.12$
 $= (225 - 114) + (0.76 + 0.12) = 111 + 0.88 = 111.88$
- (16) $17.054 - 9.066 = 17 + 0.054 - 10 + 0.934$
 $= (17 - 10) + (0.054 + 0.934) = 7 + 0.988 = 7.988$
- (17) $0.384 + 2.36 + 4.64 = 0.384 + (2.36 + 4.64)$
 $= 0.384 + 7 = 7.384$
- (18) $3.29 + 4.7 + 5.3 + 0.71 = (3.29 + 0.71) + (4.7 + 5.3)$
 $= 4 + 10 = 14$
- (19) $1.88 + 2.3 + 0.7 = 1.88 + (2.3 + 0.7)$
 $= 1.88 + 3 = 4.88$
- (20) $5.26 + 3.63 + 0.74 = (5.26 + 0.74) + 3.63 = 6 + 3.63 = 9.63$
- (21) $1.9 + 9.08 + 0.92 + 0.1 = (1.9 + 0.1) + (9.08 + 0.92)$
 $= 2 + 10 = 12$
- (22) $18.76 - 3.47 - 0.53 = 18.76 - (3.47 + 0.53)$
 $= 18.76 - 4 = 14.76$
- (23) $5.17 - 1.8 - 3.2 = 5.17 - (1.8 + 3.2) = 5.17 - 5 = 0.17$
- (24) $4.9 + 0.1 - 4.9 + 0.1 = (4.9 - 4.9) + (0.1 + 0.1)$
 $= 0 + 0.2 = 0.2$
- (25) $5.6 + 2.7 + 4.4 = (5.6 + 4.4) + 2.7 = 10 + 2.7 = 12.7$
- (26) $32.54 - 0.46 - 4.54 = 32.54 - (0.46 + 4.54)$
 $= 32.54 - 5 = 27.54$
- (27) $13.7 + 0.98 + 0.02 + 4.3 = (13.7 + 4.3) + (0.98 + 0.02)$
 $= 18 + 1 = 19$
- (28) $48.14 - 2.43 - 7.57 = 48.14 - (2.43 + 7.57)$
 $= 48.14 - 10 = 38.14$
- (29) $67 + 3.3 + 2.7 + 33 = (67 + 33) + (3.3 + 2.7)$
 $= 100 + 6 = 106$
- (30) $51.27 - 8.66 - 1.34 = 51.27 - (8.66 + 1.34)$
 $= 51.27 - 10 = 41.27$
- (31) $72.8 - 8.6 + 0.2 - 1.4 = (72.8 + 0.2) - (8.6 + 1.4)$
 $= 73 - 10 = 63$

$$\begin{aligned}
(32) & 117.84 - 26.95 - 13.08 - 6.98 = 117 + 0.84 - 27 + 0.05 \\
& = 13 - 0.08 - 7 + 0.02 \\
& = [117 - (27 + 13 + 7)] + (0.84 + 0.05 + 0.02 - 0.08) \\
& = 70 + 0.83 = 70.83 \\
(33) & 20 - 4.96 + 7.92 - 10.99 = 20 - 5 + 0.04 + 8 - 0.08 - 11 + 0.01 \\
& = 20 + 8 - 5 - 11 + 0.04 + 0.01 - 0.08 = 12 - 0.03 = 11.97 \\
(34) & 34.63 - 12.84 - 9.73 - 10.28 \\
& = (34.63 - 9.73) - (12.84 + 10.28) \\
& = 24.90 - 23.12 = 1.78 \\
(35) & 7.58 - 0.436 - 2.85 - 4.007 = 7.58 - (0.436 + 2.85 + 4.007) \\
& = 0.287 \\
(36) & 724.3 - 68.72 + 275.7 - 23.5 - 148.66 \\
& = (724.3 + 275.7) - (68.72 + 23.5 + 148.66) \\
& = 1000 - 240.88 = 759.12 \\
(37) & 120 - 14.38 - 85.62 = 120 - (14.38 + 85.62) \\
& = 120 - 100 = 20 \\
(38) & 78.14 - 12.43 - 17.57 = 78.14 - (12.43 + 17.57) \\
& = 78.14 - 30 = 48.14 \\
(39) & 127.5 - (16.73 + 27.5) = 127.5 - 27.5 - 16.73 \\
& = 100 - 16.73 = 83.27 \\
(40) & 84.67 - (14.67 + 15.3) = 84.67 - 14.67 - 15.3 \\
& = 70 - 15.3 = 54.7
\end{aligned}$$

3.

$$\begin{aligned}
(1) & 1.25 \times 7 \times 0.8 = (1.25 \times 0.8) \times 7 = 1 \times 7 = 7 \\
(2) & 0.25 \times 0.8 \times 4 = (0.25 \times 4) \times 0.8 = 1 \times 0.8 = 0.8 \\
(3) & 0.8 \times 0.14 \times 0.125 = 0.14 \times (0.8 \times 0.125) = 0.14 \times 0.1 = 0.014 \\
(4) & 50 \times 1.72 \times 0.2 = 1.72 \times (50 \times 0.2) = 1.72 \times 10 = 17.2 \\
(5) & 4.5 \times 1.5 \times 0.4 \times 2 = (4.5 \times 2) \times (1.5 \times 0.4) = 9 \times 0.6 = 5.4 \\
(6) & 1.5 \times 0.9 \times 0.4 = (1.5 \times 0.4) \times 0.9 = 0.6 \times 0.9 = 0.54 \\
(7) & 0.2 \times 1.6 \times 0.5 \times 10 \\
& = (1.6 \times 10) \times (0.2 \times 0.5) \\
& = 16 \times 0.1 \\
& = 1.6 \\
(8) & 7.8 \times 5 \times 0 \times 3.8 = 0 \\
(9) & 3.2 \times 0.125 \times 25 = 8 \times 0.4 \times 0.125 \times 25 \\
& = (8 \times 0.125) \times (0.4 \times 25) = 1 \times 10 = 10 \\
(10) & 7.4 \times 0.99 = 7.4 \times (1 - 0.01) = 7.4 - 0.074 = 7.326 \\
(11) & 4.5 \times 1.02 = 4.5 \times (1 + 0.02) = 4.5 + 0.09 = 4.59 \\
(12) & 2.5 \times 1.25 \times 4 \times 8 = (2.5 \times 4) \times (1.25 \times 8) \\
& = 10 \times 10 = 100 \\
(13) & 47.5 \times 84 \times 37.5 \times 0 \times 26 = 0 \\
(14) & 4.4 \times 25 = 1.1 \times 4 \times 25 = 1.1 \times (4 \times 25) = 1.1 \times 100 = 110 \\
(15) & 101 \times 5.3 = (100 + 1) \times 5.3 = 530 + 5.3 = 535.3 \\
(16) & 50 \times 0.017 \times 0.02 = 0.017 \times (50 \times 0.02) = 0.017 \times 1 = 0.017
\end{aligned}$$

$$(17) 28 \times 2.5 = 7 \times 4 \times 2.5 = 7 \times (4 \times 2.5) = 7 \times 10 = 70$$

$$(18) 3.2 \times 1.25 = 4 \times 0.8 \times 1.25 = 4 \times (0.8 \times 1.25) = 4 \times 1 = 4$$

$$(19) 6.4 \times 2.5 = 16 \times 0.4 \times 2.5 = 16 \times (0.4 \times 2.5) = 16 \times 1 = 16$$

$$(20) 7.2 \times 2.01 = 7.2 \times (2 + 0.01) = 14.4 + 0.072 = 14.472$$

$$(21) 0.125 \times 32 \times 2.5 = 0.125 \times 8 \times 4 \times 2.5$$

$$= (0.125 \times 8) \times (4 \times 2.5) = 1 \times 10 = 10$$

$$(22) 0.5 \times 2.1 \times 5 \times 13 \times 0.2$$

$$= (0.5 \times 0.2 \times 5) \times (2.1 \times 13)$$

$$= 0.5 \times 27.3$$

$$= 13.65$$

$$(23) 12.5 \times 7.8 \times 0.8 = (12.5 \times 0.8) \times 7.8 = 10 \times 7.8 = 78$$

$$(24) 0.25 \times 63 \times 40 = (0.25 \times 40) \times 63 = 10 \times 63 = 630$$

$$(25) 32.4 \times 2.5 \times 400 = 32.4 \times (2.5 \times 400) = 32.4 \times 1000 = 32400$$

$$(26) 80 \times 7.3 \times 0.125 = (80 \times 0.125) \times 7.3 = 10 \times 7.3 = 73$$

$$(27) 2.04 \times 0.25 \times 7.2 \times 12.5$$

$$= [(2 + 0.04) \times 0.25] \times 9 \times (0.8 \times 12.5)$$

$$= [0.5 + 0.01] \times 9 \times 10$$

$$= 0.51 \times 9 \times 10$$

$$= 45.9$$

$$(28) 2250 \times 124 \times 375 \times 0.08$$

$$= (2250 \times 4) \times 31 \times (375 \times 0.08)$$

$$= 9000 \times 31 \times 30$$

$$= 8370000$$

$$(29) 15.37 \times 1.25 \times 80 \times 4 \times 2.5$$

$$= (1.25 \times 80) \times (4 \times 2.5) \times 15.37$$

$$= 100 \times 10 \times 15.37$$

$$= 15370$$

$$(30) 246 \times 1250 \times 0.025 \times 0.08 \times 0.4$$

$$= (1250 \times 0.08) \times (0.025 \times 0.4) \times 246$$

$$= 100 \times 0.01 \times 246$$

$$= 246$$

4.

$$(1) 1.8 \div 0.5 = (1.8 \times 2) \div (0.5 \times 2) = 3.6 \div 1 = 3.6$$

$$(2) 7.3 \div 0.5 = (7.3 \times 2) \div (0.5 \times 2) = 14.6 \div 1 = 14.6$$

$$(3) 2.1 \div 2.5 = (2.1 \times 4) \div (2.5 \times 4) = 8.4 \div 10 = 0.84$$

$$(4) 1.3 \div 0.25 = (1.3 \times 4) \div (0.25 \times 4) = 5.2 \div 1 = 5.2$$

$$(5) 1.2 \div 0.125 = (1.2 \times 8) \div (0.125 \times 8) = 9.6 \div 1 = 9.6$$

$$(6) 21 \div 1.25 = (21 \times 8) \div (1.25 \times 8) = 168 \div 10 = 16.8$$

$$(7) 0.78 \div 0.25 \div 4 = 0.78 \div (0.25 \times 4) = 0.78 \div 1 = 0.78$$

$$(8) 3.4 \div 1.25 \div 8 = 3.4 \div (1.25 \times 8) = 3.4 \div 10 = 0.34$$

$$(9) 9.6 \div (9.6 \times 4) = 9.6 \div 9.6 \div 4 = 1 \div 4 = 0.25$$

$$(10) 3.14 \div (3.14 \times 8) = 3.14 \div 3.14 \div 8 = 1 \div 8 = 0.125$$

$$(11) 5.6 \div 0.8 \div 0.2 = 7 \div 0.2 = (7 \times 5) \div (0.2 \times 5) = 35 \div 1 = 35$$

$$(12) 3.7 \times 0.25 \times 4 = 3.7 \times (0.25 \times 4) = 3.7 \times 1 = 3.7$$

$$(13) 0.125 \times 3.7 \times 80 = (0.125 \times 80) \times 3.7 = 10 \times 3.7 = 37$$

$$(14) 6.6 \times 1.1 \times 2 = (1.1 \times 1.1) \times 2 \times 6 = 1.21 \times 2 \times 6 = 14.52$$

$$(15) 2.3 \times 8 \times 1.25 = (8 \times 1.25) \times 2.3 = 10 \times 2.3 = 23$$

$$(16) 102 \times 3.4 = (100 + 2) \times 3.4 = 100 \times 3.4 + 2 \times 3.4 = 340 + 6.8 = 346.8$$

$$(17) 0.5 \times 0.7 \times 5 \times 3 \times 0.4 = (0.5 \times 5 \times 0.4) \times (0.7 \times 3) = 1 \times 2.1 = 2.1$$

$$(18) 27.8 \div 2.5 \div 4 = 27.8 \div (2.5 \times 4) = 27.8 \div 10 = 2.78$$

$$(19) 785.1 \div 8 \div 1.25 = 785.1 \div (8 \times 1.25) = 785.1 \div 10 = 78.51$$

$$(20) 5.88 \div (0.6 \times 0.7) = 5.88 \div 0.6 \div 0.7 = 9.8 \div 0.7 = 14$$

$$(21) 29.7 \div (0.9 \times 0.3) = 29.7 \div 0.9 \div 0.3 = 33 \div 0.3 = 110$$

$$(22) 7.38 \div 5 \div 2 = 7.38 \div (5 \times 2) = 7.38 \div 10 = 0.738$$

$$(23) 9.9856 \div 125 \div 8 = 9.9856 \div (125 \times 8) = 9.9856 \div 1000 = 0.0099856$$

$$(24) 0.125 \times 32 \times 0.25 = 0.125 \times 8 \times 4 \times 0.25 = (0.125 \times 8) \times (4 \times 0.25) = 1 \times 1 = 1$$

$$(25) 65 \times 10.1 = 65 \times (10 + 0.1) = 65 \times 10 + 65 \times 0.1 = 650 + 6.5 = 656.5$$

$$(26) 88 \times 0.99 = 88 \times (1 - 0.01) = 88 \times 1 - 88 \times 0.01 = 88 - 0.88 = 87.12$$

$$(27) 48.5 \times (6.8 \times 0.2) = 48.5 \times 0.2 \times 6.8 = 65.96$$

$$(28) 3.9 \times (0.13 \times 3) = 3.9 \times 3 \times 0.13 = 15.21$$

$$(29) 370 \div 12.5 \div 0.08 = 370 \div (12.5 \times 0.08) = 370 \div 1 = 370$$

$$*(30) 63636.3 + 6363.63 + 636.363 + 63.6363 + 6.36363 = 636363 \times 0.1 + 636363 \times 0.01 + 636363 \times 0.001 + 636363 \times 0.0001 + 636363 \times 0.00001 = 636363 \times (0.1 + 0.01 + 0.001 + 0.0001 + 0.00001) = 636363 \times 0.11111 = 70706.29293$$

5. (略)

6.

$$(1) 5.5 \times 17.3 + 6.7 \times 5.5 = 5.5 \times (17.3 + 6.7) = 5.5 \times 24 = 132$$

$$(2) 13.7 \times 0.25 \times 8 = 13.7 \times 0.25 \times 4 \times 2 = (13.7 \times 2) \times (0.25 \times 4) = 27.4 \times 1 = 27.4$$

$$(3) 32.8 + 5.6 + 7.2 = (32.8 + 7.2) + 5.6 = 40 + 5.6 = 45.6$$

$$(4) 4.6 \times 2.5 \times 40 = 4.6 \times (2.5 \times 40) = 4.6 \times 100 = 460$$

$$(5) 12.5 \times 3 \times 3 \times 8 = (12.5 \times 8) \times (3 \times 3) = 100 \times 9 = 900$$

$$(6) 50 \times 0.47 \times 0.2 = (50 \times 0.2) \times 0.47 = 10 \times 0.47 = 4.7$$

$$(7) 101 \times 7.3 = (100 + 1) \times 7.3 = 730 + 7.3 = 737.3$$

$$(8) 10.1 \times 54 = (10 + 0.1) \times 54 = 540 + 5.4 = 545.4$$

$$(9) 42.6 - 2.77 - 7.23 = 42.6 - (2.77 + 7.23) = 42.6 - 10 = 32.6$$

$$(10) 16.4 - 16.4 \times 0.5 = 16.4 \times 1 - 16.4 \times 0.5 = 16.4 \times (1 - 0.5) = 16.4 \times 0.5 = 8.2$$

$$(11) 2.18 + 4.65 + 7.82 + 4.35 = (4.65 + 4.35) + (2.18 + 7.82) = 9 + 10 = 19$$

- (12) $12.48 - 2.72 - 3.28 = 12.48 - (2.72 + 3.28) = 12.48 - 6 = 6.48$
- (13) $(250 + 2.5) \times 4 = 250 \times 4 + 2.5 \times 4 = 1000 + 10 = 1010$
- (14) $4 \times 7 \times 0.5 \times 3 \times 5 = (4 \times 0.5 \times 5) \times (7 \times 3) = 10 \times 21 = 210$
- (15) $(125 + 1.25) \times 8 = 125 \times 8 + 1.25 \times 8 = 1000 + 10 = 1010$
- (16) $775 + 10.9 + 9.1 + 225 = (10.9 + 9.1) + (775 + 225)$
 $= 20 + 1000 = 1020$
- (17) $12.4 - 2.68 - 7.32 = (12.4 - (2.68 + 7.32)) = 12.4 - 10 = 2.4$
- (18) $7 \times 1.785 + 3 \times 1.785 = 1.785 \times (7 + 3) = 1.785 \times 10 = 17.85$
- (19) $5.25 \div 15 + 3.75 \div 15 = (5.25 + 3.75) \div 15 = 9 \div 15 = 0.6$
- (20) $18.4 \times 1.7 + 18.4 \times 8.3 = 18.4 \times (1.7 + 8.3) = 18.4 \times 10 = 184$
- (21) $7.6 \times 5.3 + 7.6 \times 3.7 + 7.6 = 7.6 \times (5.3 + 3.7 + 1)$
 $= 7.6 \times 10$
 $= 76$
- (22) $45.6 \div 38 - 7.6 \div 38 = (45.6 - 7.6) \div 38 = 38 \div 38 = 1$
- (23) $(0.45 + 0.06 + 1.5) \div 0.15$
 $= 0.45 \div 0.15 + 0.06 \div 0.15 + 1.5 \div 0.15$
 $= 3 + 0.4 + 10$
 $= 13.4$
- (24) $2.75 \div 54 + 2.65 \div 54 = (2.75 + 2.65) \div 54 = 5.4 \div 54 = 0.1$
- (25) $1.25 \times 8.8 = 1.25 \times 0.8 \times 11 - 1 \times 11 = 11$
- (26) $0.89 \times 10.1 = 0.89 \times (10 + 0.1) = 8.9 + 0.089 = 8.989$
- (27) $25 \times 5.26 \times 40 = (25 \times 40) \times 5.26 = 1000 \times 5.26 = 5260$
- (28) $0.125 \times 32 \times 25 = (0.125 \times 8) \times (4 \times 25) = 1 \times 100 = 100$
- (29) $0.36 \times 0.5 + 0.36 \times 0.4 + 0.36 \times 0.1$
 $= 0.36 \times (0.5 + 0.4 + 0.1)$
 $= 0.36 \times 1$
 $= 0.36$
- (30) $0.38 + 13.4 + 1.62 + 4.6$
 $= (0.38 + 1.62) + (13.4 + 4.6)$
 $= 2 + 18 = 20$
- (31) $0.125 \times 78 \times 80 = (0.125 \times 80) \times 78 = 10 \times 78 = 780$
- (32) $9.1 \times 1.1 - 9.1 \times 0.1 = 9.1 \times (1.1 - 0.1) = 9.1 \times 1 = 9.1$
- (33) $0.125 \times 32 \times 25 \times 58$
 $= (0.125 \times 8) \times (4 \times 25) \times 58$
 $= 1 \times 100 \times 58$
 $= 5800$
- *(34) $1.86 \times 1.3 + 1.86 \times 5.7 + 1.86 \times 2 + 1.86$
 $= 1.86 \times (1.3 + 5.7 + 2 + 1)$
 $= 1.86 \times 10 = 18.6$
- (3) $79 \times 0.99 + 21.79 = 79 \times (1 - 0.01) + 21.79$
 $= 79 - 0.79 + 21.79 = 79 + (21.79 - 0.79) = 79 + 21 = 100$

(五) 分数简算

1. (略)

2. (略)

3. 简算

$$19\frac{3}{8} \quad 30\frac{3}{5} \quad 21\frac{3}{8} \quad 21\frac{7}{8} \quad 17\frac{1}{8} \quad 123\frac{1}{2}$$
$$12\frac{1}{5} \quad 46\frac{7}{12} \quad 14\frac{1}{2} \quad 5\frac{4}{9} \quad 1\frac{4}{5} \quad 2 \quad 23 \quad 20\frac{4}{15} \quad 7\frac{5}{9} \quad 2\frac{25}{48}$$
$$4. 3\frac{4}{5} \quad 33 \quad 13\frac{13}{18} \quad 8\frac{7}{8} \quad 4\frac{9}{100} \quad 7\frac{1}{2} \quad 3\frac{1}{3} \quad 6\frac{6}{7} \quad 18 \quad 12\frac{9}{10}$$
$$12\frac{5}{11} \quad \frac{5}{6} \quad 10$$

5. 不用通分计算出结果

$$3 \quad 4 \quad 200 \quad \frac{2}{5} \quad \frac{127}{128}.$$

规律：用 1 减去最后一个加数所得的差为所求之和。

$$6. (1) \frac{1}{64} \quad (2) \frac{1}{12} \quad (3) \frac{5}{36}$$

$$\text{提示：} \frac{5}{12 \times 13} = 5 \times \frac{1}{12 \times 13}; \quad \frac{5}{13 \times 14} = 5 \times \frac{1}{13 \times 14}; \quad \dots$$

$$(4) \frac{9}{20} \quad \text{提示：} \frac{3}{2 \times 5} = \frac{1}{2} - \frac{1}{5}; \quad \frac{3}{5 \times 8} = \frac{1}{5} - \frac{1}{8}; \quad \dots$$

7.

$$(1) 50\frac{1}{3} \quad (2) 15 \quad (3) 750 \quad (4) 3 \quad (5) 26\frac{3}{7}$$
$$(6) \frac{189}{500} \quad (7) 47 \quad (8) 1 \quad (9) 101\frac{1}{2} \quad (10) 104\frac{1}{6}$$
$$(11) 30\frac{3}{16} \quad (12) 211\frac{1}{5} \quad (13) 0 \quad (14) 4\frac{4}{9} \quad (15) \frac{1}{2}$$
$$(16) 4 \quad (17) 1\frac{2}{3} \quad (18) 1\frac{11}{12} \quad (19) 1220 \quad (20) 4\frac{2}{11}$$
$$(21) \frac{11}{30} \quad (22) 31\frac{1}{3} \quad (23) 14\frac{7}{8} \quad (24) 6 \quad *(25) 7$$
$$*(26) 3\frac{1}{2} \quad *(27) 4\frac{5}{19} \quad *(28) \frac{17}{48} \quad *(29) 50\frac{1}{2} \quad *(30) 1$$

8.

$$(1) 2\frac{148}{225} \quad (2) 3\frac{1}{3} \quad (3) 2\frac{2}{53} \quad (4) \frac{9}{200} \quad (5) 43\frac{1}{2}$$
$$(6) \frac{4}{7} \quad (7) \frac{1}{100} \quad (8) 12\frac{5}{6} \quad (9) 8\frac{7}{10} \quad (10) 6\frac{17}{20}$$
$$(11) 14 \quad (12) \frac{2}{9} \quad (13) 1\frac{1}{2} \quad *(14) \frac{25}{32} \quad *(15) \frac{1997}{1998}$$

$$9. (1) 41 \quad (2) 1 \quad (3) 10\frac{1}{2} \quad (4) 4\frac{2}{5} \quad (5) 1 \quad (6) 3\frac{5}{6}$$

10.

- (1) $1\frac{3}{7}$ (2) 1 (3) 22 (4) $\frac{1}{7}$ (5) $\frac{10}{19}$
(6) 9009000 (7) 1089 (8) 10.54321 (9) $9\frac{9}{80}$
(10) $200\frac{99}{300}$ (11) $\frac{10}{23}$ * (12) $71\frac{1}{2}$ * (13) $\frac{2000}{2001}$
* (14) $\frac{1}{2048}$ * (15) $\frac{1}{720}$ * (16) $\frac{34}{39}$ * (17) $\frac{1}{120}$

(六) 整、小、分四则混合运算

1.

- (1) 10.1 (2) $\frac{5}{7}$ (3) 12 (4) 0.75 (5) 9.1 (6) 8.6
(7) 8.78 (8) $1108\frac{1}{2}$ (9) 0.1 (10) 360 (11) 24
(12) 10.06
(13) 13 (14) 75 (15) $1\frac{1}{4}$ (16) 1 (17) 6 (18) 325
(19) $3\frac{1}{3}$ (20) 4.97 (21) $34\frac{5}{8}$ (22) $3\frac{23}{30}$ (23) 10.45
(24) 54 (25) 20 (26) 0.9 (27) 4 (28) $12\frac{11}{48}$ (29) 764.8925
(30) 151022.9 (31) 64876357.5 (32) 756 (33) 416
(34) 12600 (35) 86 (36) 94 (37) 7 (38) 6440000
(39) 1520 (40) 100 (41) 6400 (42) 664000 (43) 2634
(44) 5 (45) 1 (46) 6 (47) 20.36 (48) 1370 (49) 100
(55) 原式 = $5.87 \times (5.87 + 4.13) = 5.87 \times 10 = 58.7$
* (56) 原式 = $8888 \times 2 - 8888 = 8888$
* (57) 原式 = $1 + \frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \frac{1}{4 \times 5} + \frac{1}{5 \times 6} + \frac{1}{6 \times 7} + \frac{1}{7 \times 8}$
 $= 1 + 1 - \frac{1}{2} + \frac{1}{2} - \frac{1}{3} + \frac{1}{3} - \frac{1}{4} + \frac{1}{4} - \frac{1}{5} + \frac{1}{5} - \frac{1}{6} + \frac{1}{6} - \frac{1}{7} + \frac{1}{7} - \frac{1}{8}$
 $= 1\frac{7}{8}$
* (58) 原式 = $768 - 3 + 768 = 1533$

$$*(59) \text{原式} = \frac{3}{4} \times \frac{8}{9} \times \frac{15}{16} \times \frac{24}{25} \times \frac{35}{36} \times \frac{48}{49} \times \frac{63}{64} = \frac{9}{16}$$

$$*(60) \text{原式} = (1+2+3+4+5) + \frac{1}{5} \times (1 - \frac{1}{6} + \frac{1}{6} - \frac{1}{11} + \frac{1}{11} - \frac{1}{16} + \frac{1}{16} - \frac{1}{21} + \frac{1}{21} - \frac{1}{26})$$

$$= 15 + \frac{5}{26} = 15\frac{5}{26}$$

2. (1)11000 (2)111100 (3)1000 (4)24816 (5)265

(6)900 (7)12460 (8)35900 (9)222210

$$(10) \text{原式} = (1997-1996) + (1995-1994) + (1993-1992)$$

$$= 1 + 1 + 1 = 3$$

(11)1

(12) $(21+39) \times 10 \div 2 = 300$

*(22)原式 = $1997 \times 1996 \times 10001 - 1996 \times 1997 \times 10001 = 0$

$$*(23) \text{原式} = \frac{24}{25} \times \frac{35}{36} \times \frac{48}{49} \times \frac{63}{64} \times \frac{80}{81} \times \frac{99}{100} \times \frac{120}{122} = \frac{8}{55}$$

$$*(24) \text{原式} = 2\frac{1}{3 \times 5} + 4\frac{1}{5 \times 8} + 6\frac{1}{8 \times 11} + 8\frac{1}{12 \times 15} + 10\frac{1}{15 \times 18}$$

$$= (2+4+6+8+10) + \frac{1}{3} \times (\frac{1}{3} - \frac{1}{18})$$

$$= 30 + \frac{5}{54} = 30\frac{5}{54}$$

$$*(25) \text{原式} = 1997 \times (1 - \frac{1}{2} + \frac{1}{2} - \frac{1}{3} + \frac{1}{3} + \dots + \frac{1}{1996} - \frac{1}{1997})$$

$$= 1997 \times (1 - \frac{1}{1997})$$

$$= 1997 - 1$$

$$= 1996$$

$$*(26) \text{原式} = \frac{81}{999999 \times 999999}$$

$$= \frac{9 \times 9}{999999 \times 999999}$$

$$= \frac{1}{111111 \times 111111}$$

$$= \frac{1}{134565431}$$

(27)7.5 (28)4.9 (29)1 (30) $1\frac{1}{15}$

(七)综合训练

A 卷

4.

- | | | | | |
|--------------|-----------|-------------|------------|-------------|
| (1)1722 | (2)3843 | (3)3272 | (4)6784 | (5)3930 |
| (6)2555 | (7)2076 | (8)2602 | (9)1696 | (10)5618 |
| (11)9009 | (12)32334 | (13)148304 | (14)115885 | (15)37026 |
| (16)105040 | (17)7979 | (18)39479 | (19)41004 | (20)2588279 |
| (21)991416 | (22)600 | (23)48985 | (24)122210 | (25)2400 |
| (26)4420 | (27)1 | (28)8900 | (29)91 | (30)80 |
| (31)2668 | (32)8799 | (33)53 | (34)1000 | (35)46.08 |
| (36)10 | (37)84 | (38)1777776 | (39)50003 | (40)3989 |
| (41)87654213 | (42)1 | (43)29.7025 | (44)4172 | |
| (45)9999 | (46)8327 | | | |

B 卷

3. $\frac{4}{5}$

4.

- | | | | | |
|--------------------|------------|---------|----------|--------|
| (1)37269 | (2)1922869 | (3)3800 | (4)4200 | (5)300 |
| (6)97797 | (7)1310 | (8)8092 | (9)60000 | (10)7 |
| (11)1642000 | (12)7892 | (13)18 | | |
| (14) $\frac{5}{7}$ | (15)77.5 | | | |

5.(1) $4\frac{127}{135}$ (2) $\frac{1}{200}$

6.

- | | | | |
|----------------------|--------|---------|------------|
| (1)0 | (2)100 | (3)39.5 | (4)114.875 |
| (5) $7\frac{53}{60}$ | | | |

(6) $124\frac{19}{24}$	(7) $11\frac{1}{8}$	(8)1	(9) $5\frac{5}{6}$	(10) $\frac{1}{3}$
------------------------	---------------------	------	--------------------	--------------------

(11)11	(12) $3\frac{23}{30}$
--------	-----------------------

7.

- | | | | | |
|------------|------------|-----------|-----------|----------|
| (1)1810 | (2)1970000 | (3)4000 | (4)126 | (5)700 |
| (6)7593 | (7)2835 | (8)77700 | (9)1000 | (10)8100 |
| (11)84 | (12)200 | (13)10 | (14)200 | (15)2200 |
| (16)87 | (17)106 | (18)80900 | (19)48600 | |
| (20)11400 | (21)80 | (22)2700 | (23)50004 | |
| (24)111100 | (25)49 | (26)62 | | |

* (27) $1992 \frac{1992}{1993}$ (28) 99 *(29) $\frac{50}{51}$ (30) $1\frac{1}{3}$

* (31) $\frac{8}{9}$ *(32) 1994

C 卷

4.

(1) $2^4 \times 3 \times 5^2$ $(4 \times 1) \times (1 + 1) \times (2 + 1) = 30$ 个

(2) 13 有两个约数

5.

(1) 878.7 (2) 19 (3) 2000 (4) 13.75 (5) 13.5

(6) 0.03 (7) 6.8 (8) 79811700 (9) 516571500

(10) 162487 (11) 195116.8 (12) 3.14

(13) 51.18 (14) 9

6. 脱式计算

(1) $\frac{289}{300}$ (2) 5.48 (3) $18\frac{14}{15}$ (4) $8\frac{1}{30}$

(5) 10.56 (6) 33.66 (7) 0.2(8) 0

7. 化简

(1) $\frac{41}{200}$ (2) $\frac{99}{109}$

8. 计算

(1) 222200 (2) 1573 *(3) $\frac{99}{200}$ *(4) $\frac{12}{37}$

* (5) $\frac{213}{412}$ (6) 1000 (7) $\frac{6}{7}$ (8) $\frac{2063508}{2523675}$ *(9) $\frac{1139}{2052}$

(10) $\frac{3}{20}$ *(11) 98.1 *(12) 27306

* (13) 111106 *(14) 7.4 *(15) 9

* (16) $\frac{10}{19019}$ *(17) 2222200 (18) 0

(19) 36 *(20) 25 *(21) 1 *(22) 4510.44

* (23) 2 (24) 11100 *(25) 0

* (26) $\frac{2375}{2376}$ (27) 388885 *(28) $\frac{641}{1260}$

* (29) 103.25 *(30) $\frac{127}{8192}$

