

六年级“算你狠”之计算周周练（第三周）

（解析）

说明：本试卷为分为五个星级，最优为五星，老师根据学生答题情况评定星级

评星项	正确率（共四星）	书写（共一星）	总评
得分			

一、整数巧算（本大题含 30 个小题，每小题 2 分，共 60 分）

- (1) $35 \times 11 = 385$

(2) $26 \times 11 + 25 \times 11 = 51 \times 11 = 561$
- (3) $56 \times 99 = 5544$

(4) $297 \times 999 = 296703$
- (5) $17 \times 33 = 51 \times 11 = 561$

(6) $333 \times 333 = 111 \times 999 = 110889$
- (7) $23 \times 11 + 89 \times 23 = 2300$

(8) $31 \times 68 + 16 \times 62 = 31 \times 68 + 32 \times 31 = 3100$
- (9) $35^2 + 25 \times 35 = 35 \times 60 = 2100$

(10) $19^2 + 19 \times 51 + 15 \times 38 = 19 \times (19 + 51 + 30) = 1900$
- (11) $26^2 - 25^2 = (26 + 25) \times (26 - 25) = 51$

(12) $39 \times 41 = (40 - 1) \times (40 + 1) = 40^2 - 1^2 = 1599$
- (13) $48 \times 52 = (50 - 2) \times (50 + 2) = 50^2 - 2^2 = 2496$

- (14) $47^2 - 41 \times 53 = 47^2 - (47 - 6) \times (47 + 6) = 6^2 = 36$
- (15) 错题: $1^2 - 2^2 + 3^2 - 4^2 + 5^2 - \dots - 9^2 + 10^2$

(16) $123 \times 1001 = 123123$
- (17) $527 \times 1001001 = 527527527$

(18) $33 \times 27 \times 1001001001 = 891891891891$
- (19) $23 \div 5 + 37 \div 5 = (23 + 37) \div 5 = 12$
- (20) $14 \div 5 + 29 \div 5 + 57 \div 5 = (14 + 29 + 57) \div 5 = 20$
- (21) $73 \div 7 - 38 \div 7 = (73 - 38) \div 7 = 5$

(22) $25 \times 12 = 300$
- (23) $125 \times 56 = 7000$

(24) $75 \times 16 = 1200$
- (25) $5 \times 25 \times 125 \times 128 = 2000000$

(26) $3400 \div 4 \div 25 = 34$
- (27) $517 \times 25 \times 125 \times 32 = 51700000$

(28) $375 \times 24 = 9000$
- (29) $625 \times 32 = 20000$

(30) $15 \times 75 \times 125 \times 192 = 27000000$

二、分数巧算（本大题含 10 个小题，每小题 2 分，共 20 分）

$$(31) \left(\frac{1}{3} + \frac{1}{9} + \frac{1}{27} + \frac{1}{81}\right) \times 81 = \frac{1}{3} \times 81 + \frac{1}{9} \times 81 + \frac{1}{27} \times 81 + \frac{1}{81} \times 81 = 27 + 9 + 3 + 1 = 40$$

$$(32) 51 \times \frac{66}{79} + 22 \times \frac{48}{79} + 33 \times \frac{24}{79} = \frac{66}{79} \times (51 + 16 + 12) = 66$$

$$(33) 17 \times 23 \frac{12}{13} + 9 \frac{17}{13} = 17 \times 24 - 17 \times \frac{1}{13} + 9 \frac{17}{13} = 408 + 9 = 417$$

$$(34) 1 \frac{7}{5} \times \frac{4}{11} + 5 \frac{9}{11} \times \frac{3}{5} + \frac{7}{11} = \frac{4}{11} + \frac{7}{5} \times \frac{4}{11} + 3 + \frac{9}{11} \times \frac{3}{5} + \frac{7}{11} = 5$$

$$(35) 21 \frac{1}{19} \div 23 \frac{9}{17} = \frac{17}{19} \quad (36) 31 \frac{1}{29} \div 28 \frac{4}{32} \div \frac{4}{25} = \frac{200}{29}$$

$$(37) \left(1 - \frac{1}{2}\right) \times \left(1 - \frac{1}{3}\right) \times \left(1 - \frac{1}{4}\right) \times \cdots \times \left(1 - \frac{1}{100}\right) = \frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} \times \cdots \times \frac{99}{100} = \frac{1}{100}$$

$$(38) \left(1 + \frac{1}{2}\right) \times \left(1 + \frac{1}{3}\right) \times \left(1 + \frac{1}{4}\right) \times \cdots \times \left(1 + \frac{1}{100}\right) = \frac{3}{2} \times \frac{4}{3} \times \frac{5}{4} \times \cdots \times \frac{101}{100} = \frac{101}{2}$$

$$(39) \frac{1 \times 2 + 11 \times 12 + 21 \times 22}{2 \times 4 + 22 \times 24 + 42 \times 44} = \frac{1 \times 2 + 11 \times 12 + 21 \times 22}{4 \times (1 \times 2 + 11 \times 12 + 21 \times 22)} = \frac{1}{4}$$

$$(40) \frac{\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \cdots + \frac{1}{20}}{\frac{3}{4} + \frac{3}{6} + \frac{3}{8} + \cdots + \frac{3}{40}} = \frac{2 \times \left(\frac{1}{4} + \frac{1}{6} + \frac{1}{8} + \cdots + \frac{1}{40}\right)}{3 \times \left(\frac{1}{4} + \frac{1}{6} + \frac{1}{8} + \cdots + \frac{1}{40}\right)} = \frac{2}{3}$$

三、分数裂项（本大题含 10 个小题，每小题 2 分，共 20 分）

$$(41) \frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \cdots + \frac{1}{79 \times 80} = 1 - \frac{1}{2} + \frac{1}{2} - \frac{1}{3} + \frac{1}{3} - \frac{1}{4} + \cdots + \frac{1}{79} - \frac{1}{80} = 1 - \frac{1}{80} = \frac{79}{80}$$

$$(42) \frac{1}{11 \times 12} + \frac{1}{12 \times 13} + \frac{1}{13 \times 14} + \cdots + \frac{1}{54 \times 55} = \frac{1}{11} - \frac{1}{12} + \frac{1}{12} - \frac{1}{13} + \cdots + \frac{1}{54} - \frac{1}{55} = \frac{1}{11} - \frac{1}{55} = \frac{4}{55}$$

$$(43) \frac{3}{7 \times 10} + \frac{3}{10 \times 13} + \frac{3}{13 \times 16} + \cdots + \frac{3}{67 \times 70} = \frac{1}{7} - \frac{1}{10} + \frac{1}{10} - \frac{1}{13} + \cdots + \frac{1}{67} - \frac{1}{70} = \frac{1}{7} - \frac{1}{70} = \frac{9}{70}$$

$$(44) \frac{1}{1 \times 2} + \frac{2}{2 \times 4} + \frac{3}{4 \times 7} + \cdots + \frac{10}{46 \times 56} = 1 - \frac{1}{2} + \frac{1}{2} - \frac{1}{4} + \cdots + \frac{1}{46} - \frac{1}{56} = 1 - \frac{1}{56} = \frac{55}{56}$$

$$(45) \frac{1}{3 \times 7} + \frac{1}{7 \times 11} + \frac{1}{11 \times 15} + \cdots + \frac{1}{59 \times 63} = \frac{1}{4} \times \left(\frac{1}{3} - \frac{1}{7} + \frac{1}{7} - \frac{1}{11} + \cdots + \frac{1}{59} - \frac{1}{63}\right) = \frac{1}{4} \times \left(\frac{1}{3} - \frac{1}{63}\right) = \frac{5}{63}$$

$$(46) \frac{5}{1 \times 4} + \frac{5}{4 \times 7} + \frac{5}{7 \times 10} + \cdots + \frac{5}{34 \times 37} = \frac{5}{3} \times \left(1 - \frac{1}{4} + \frac{1}{4} - \frac{1}{7} + \cdots + \frac{1}{34} - \frac{1}{37}\right) = \frac{5}{3} \times \left(1 - \frac{1}{37}\right) = \frac{60}{37}$$

$$(47) \frac{1}{4} + \frac{1}{12} + \frac{1}{24} + \frac{1}{40} + \cdots + \frac{1}{220} = \frac{1}{2} - \frac{1}{4} + \frac{1}{4} - \frac{1}{6} + \cdots + \frac{1}{20} - \frac{1}{22} = \frac{1}{2} - \frac{1}{22} = \frac{5}{11}$$

$$(48) \frac{1}{3} + \frac{1}{6} + \frac{1}{10} + \frac{1}{15} + \cdots + \frac{1}{300} = 2 \times \left(\frac{1}{2} - \frac{1}{3} + \frac{1}{3} - \frac{1}{4} + \cdots + \frac{1}{24} - \frac{1}{25}\right) = \frac{23}{25}$$

$$(49) \frac{1}{2} + \frac{3}{5} + \frac{5}{6} + \frac{8}{15} + \frac{11}{30} + \frac{17}{66} = \frac{1}{2} + \frac{3}{5} + \frac{5}{6} + \frac{1}{3} + \frac{1}{5} + \frac{1}{5} + \frac{1}{6} + \frac{1}{6} + \frac{1}{11} = 3 \frac{1}{11}$$

$$(50) \frac{5}{6} - \frac{7}{12} + \frac{9}{20} - \frac{11}{30} + \frac{13}{42} - \cdots - \frac{23}{132} = \left(\frac{1}{2} + \frac{1}{3}\right) - \left(\frac{1}{3} + \frac{1}{4}\right) + \left(\frac{1}{4} + \frac{1}{5}\right) - \cdots - \left(\frac{1}{11} + \frac{1}{12}\right) = \frac{1}{2} - \frac{1}{12} = \frac{5}{12}$$