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2010 小學數學競賽選拔賽初賽試題

第一試：計算題 (考試時間 1 小時)

◎請將答案填入答案卷對應題號的空格內，不須計算過程。答案若為分數請化為最簡分數。本題目卷正反面空白處可為作演算草稿紙。每題 5 分，共 100 分

1. $(100 - 30 - 3) \times 30 = 2010$

2. $142857 \times 8 = 1142856$

3. $(700 + 701 + 702 + 703 + 704 + 705 + 706 + 707 + 708 + 709 + 710) \div 705 = 11$

4. $13579 \times 32 \times 81 \div 36 \div 72 = 13579$

5. $\frac{1}{2} + \frac{1}{4} + \frac{1}{12} + \frac{1}{7} + \frac{1}{42} = 1$

6. $485 \times 9.7 \div 2 - 18.5 \times 37 \div 2 = 2010$

7. $4321 + 5432.1 + 6543.2 + 7654.3 + 8765.4 + 9876.5 + 987.6 + 1098.7 + 2109.8 + 3210.9 = 49999.5$

8. $1200 + 1206 + 1212 + \dots + 2004 + 2010 = 218280$

9. $26 \times 26 \times 224466 - 24 \times 24 \times 224466 = 22446600$

10. $21 + 201 + 210 + 2001 + 2100 + 20001 + 21000 + \dots + \overbrace{20 \cdots 01}^{50 \text{個} 0} + \overbrace{210 \cdots 0}^{50 \text{個} 0} =$
 $\overbrace{45 \cdots 581}^{49 \text{個} 5}$

11. $\frac{1.21 + 1.21 \times 2 + 1.21 \times 3 + 1.21 \times 4}{0.99 \times 9.9 \times 99 + 0.99 \times 9.9} = \frac{1}{81}$

12. $\frac{56}{84} \times 42 \times 320032 + \frac{26}{78} \times 21 \times 640064 = 13441344$

13. $\frac{1 + 3 + 5 + 7 + \dots + 297 + 299}{2010 \div 67 + 2010 \times 67} = \frac{75}{449}$

$$14. 2010 \div 20102010 \frac{2010}{2100} = \frac{2100}{21002101}$$

$$15. 2\frac{10}{55} + 4\frac{9}{55} + 8\frac{8}{55} + 16\frac{7}{55} + \dots + 1024\frac{1}{55} = 2047$$

$$16. \frac{46230}{64320} \times \frac{92460}{128640} \times \frac{192960}{138690} = \frac{23}{32}$$

$$17. \frac{7 \times 14 \times 21 + 11 \times 22 \times 33 + 13 \times 26 \times 39}{7 \times 7 \times 7 \times 7 \times 11 \times 13 + 7 \times 11 \times 11 \times 11 \times 11 \times 13 + 7 \times 11 \times 13 \times 13 \times 13 \times 13} = \frac{6}{1001}$$

$$18. 1\frac{1}{2} \times 1\frac{1}{3} \times 1\frac{1}{4} \times 1\frac{1}{5} \times 1\frac{1}{6} \times 1\frac{1}{7} - 1\frac{1}{2} \times 1\frac{1}{3} \times 1\frac{1}{4} \times 1\frac{1}{5} \times 1\frac{1}{6} + 1\frac{1}{2} \times 1\frac{1}{3} \times 1\frac{1}{4} \times 1\frac{1}{5} - 1\frac{1}{2} \times 1\frac{1}{3} \times 1\frac{1}{4} = 1$$

$$19. \frac{1}{1 + \frac{2}{1 + \frac{3}{1 + \frac{4}{1 + \frac{4}{1 + \frac{3}{1 + \frac{2}{1 + \frac{1}{1}}}}}}}} = \frac{12}{23}$$

$$20. \frac{3.99 \times 7.98 \times 7.98 \times 7.98 + 3.99 \times 3.99 \times 7.98 \times 7.98 + 3.99 \times 3.99 \times 3.99 \times 7.98}{(3.99 \times 3.99 + 1) \times 4.99 \times 2.99 \div 1} = 14$$