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2009 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. 555×666＝369630

2. 702＋704＋706＋…＋798＋800－799－797－795－…－703－701＝50

3. 11×125＋55×25＋275×5＋1375＝5500

4. (1＋2＋3＋5＋6＋7＋8＋9)×(1＋2＋3＋4＋4＋5＋6＋7＋8＋9)＝2009

5. 2÷3×4÷5×6÷7×8÷9×10÷11×12÷13×91×99＝3072

6. (9292＋9290＋9288＋…＋9002)－(2＋4＋6＋…＋292)＝1314000

7. 2009×41×49÷343－287－280＝11200

8. 144×144－2×144×44＋44×44＝10000

9. 199×201×[(198×199＋198×201＋199×202＋201×202)÷4＋1]＝1599999999

10. 1＋101＋10201＋1020301＋102030401＋10203040501＋1020304050601＋

102030405060701+1020304050607080901+10203040506070801＝

10306101521283645 10

（請翻面繼續）

11. $(2009\times41-2009\div41)\div5\div6\div7\div8=49$

12. $\dfrac{45\times45-4\times4}{2009\times3\times21}=\dfrac{1}{63}$

13. $\dfrac{1}{5}\times512+\dfrac{6}{15}\times256+\dfrac{36}{45}\times128+1\dfrac{9}{15}\times64+3\dfrac{1}{5}\times32=512$

14. $4\times(0.14+0.28)\times\dfrac{21}{50}+4\times0.56\times0.56=1.96$ or $1\dfrac{24}{25}$ or $\dfrac{49}{25}$

15. $\dfrac{1+2+3+4+5+6+7+8+9+10+9+8+7+6+5+4+3+2+1}{3333\times6666+4444\times8888}=\dfrac{2}{1234321}$

16. $111\dfrac{1}{2}\times111\dfrac{1}{2}\times222\dfrac{1}{2}\times444\dfrac{1}{2}\times555\dfrac{1}{2}-111\dfrac{1}{2}\times222\dfrac{1}{2}\times222\dfrac{1}{2}\times444\dfrac{1}{2}\times555\dfrac{1}{2}$
$-111\dfrac{1}{2}\times222\dfrac{1}{2}\times444\dfrac{1}{2}\times444\dfrac{1}{2}\times555\dfrac{1}{2}+111\dfrac{1}{2}\times222\dfrac{1}{2}\times444\dfrac{1}{2}\times555\dfrac{1}{2}\times555\dfrac{1}{2}=0$

17. $\left(2-\dfrac{1}{2}\right)\times\left(2-\dfrac{1}{3}\right)\times\left(2-\dfrac{1}{4}\right)\times\cdots\times\left(2-\dfrac{1}{100}\right)\times\dfrac{2}{199}\times\dfrac{4}{197}\times\dfrac{6}{195}\times\cdots\times\dfrac{100}{101}\times\dfrac{102}{99}=\dfrac{34}{33}$

18. $\dfrac{\dfrac{1}{5}+\dfrac{1}{10}+\dfrac{1}{20}+\dfrac{1}{40}+\dfrac{1}{80}+\cdots+\dfrac{1}{10240}}{0.2\times\dfrac{1}{2}+0.2\times\dfrac{1}{3}+0.2\times\dfrac{1}{6}}=1\dfrac{2047}{2048}$ or $\dfrac{4095}{2048}$ or 1.99951171875

19. $\cfrac{1}{7+\cfrac{1}{6+\cfrac{1}{5+\cfrac{1}{4+\cfrac{1}{3+\cfrac{1}{2+\cfrac{1}{1}}}}}}}=\dfrac{1393}{9976}$

20. $\dfrac{1}{2}+\dfrac{1}{4}+\dfrac{2}{4}+\dfrac{3}{4}+\dfrac{1}{8}+\dfrac{2}{8}+\dfrac{3}{8}+\dfrac{4}{8}+\dfrac{5}{8}+\dfrac{6}{8}+\dfrac{7}{8}+\cdots+\dfrac{1}{512}+\dfrac{2}{512}+\dfrac{3}{512}+\cdots+\dfrac{511}{512}=$
$506\dfrac{1}{2}$ or $\dfrac{1013}{2}$ or 506.5