

GRADE:  
NAME:  
SURNAME:

# HMC 2013 - FIRST ROUND

FOR MATHEMATICS TEACHER  
LEARNER'S MARK

## HORIZON MATHEMATICS COMPETITION

1)  $5 + 7 - 9 + 11 - 13 = ?$

- A) 1      B) 2      C) 3      D) 4      E) 5

2) Which number should come next in this series?

25, 24, 22, 19, 15

- A) 4      B) 5      C) 10      D) 14      E) 11

3)  $\frac{7}{6} + \frac{3}{4} = ?$

- A)  $\frac{10}{10}$       B) 1      C)  $\frac{10}{12}$       D)  $\frac{23}{12}$       E)  $\frac{11}{9}$

4)  $4^2 - 2^3 = ?$

- A)  $2^{-1}$       B) 8      C) 2      D) 4      E) 1

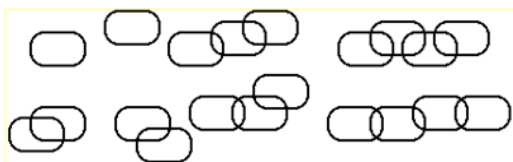
5)  $20.13 - 2.013 = ?$

- A) 0      B) 18      C) 17.117      D) 18.117      E) 20

6) The day before the day before yesterday is three days after Saturday. What day is it today?

- A) Monday      B) Tuesday      C) Wednesday  
D) Thursday      E) Friday

7) Below you can see several bits of broken chains. It takes one minute to cut one link, and two minutes to join it up again. How long will it take to make the longest chain?



- A) 27      B) 24      C) 21      D) 18      E) 15

8)  $10 - 5 \times 3 + 20 \div (2 + 3) = ?$

- A) 7      B) -1      C) 0      D) 19      E) 1

9) A girl, a boy, and a dog start to walk down a road. They start at the same time, at the same point, in the same direction. The boy walks at 5km/h, the girl at 6 km/h. The dog runs from boy to girl and back again with a constant speed of 10 km/h. The dog does not slow on the turn. How far does the dog travel in 2 hours?

- A) 2      B) 20      C) 45      D) 10      E) 4

10) A fisherman was asked how long the fish he caught was. He said "It is 30cms plus half its length". How long was the fish?

- A) 60cm      B) 100cm      C) 30cm      D) 50cm      E) 90cm

11) A Hammer and a Nail cost R31. If a hammer costs R30 more than a nail, then what is the cost of each?

- A) R30 and R1  
B) R29 and R2  
C) R28 and R3  
D) R30 and R2  
E) R30.5 and R0.5

12) Take 1000 and add 40 to it. Now add another 1000. Now add 30. Add another 1000. Now add 20. Now add another 1000. Now add 10. What is the result?

- A) 5000      B) 6000      C) 4000      D) 4100      E) 3000

13) Three identical squares are joined together to form a rectangle shown below. If the area of one of the squares is  $25m^2$ , then calculate the perimeter of the rectangle.



- A) 75m      B) 60m      C) 40m      D) 80m      E) 70m

14) At the end of a banquet 10 people shake hands with each other. How many handshakes will there be in total?

- A) 100      B) 20      C) 45      D) 50      E) 90

15)  $\left(1 + \frac{1}{3}\right) \times \left(1 + \frac{1}{4}\right) \times \left(1 + \frac{1}{5}\right) \times \dots \times \left(1 + \frac{1}{110}\right) = ?$

- A) 37      B) 64      C) 81      D) 111      E) 1010

16) Which of the following arrangement is from the least to the greatest?

- A)  $\frac{2}{5}, \frac{3}{4}, \frac{7}{10}$       B)  $\frac{2}{5}, \frac{7}{10}, \frac{3}{4}$       C)  $\frac{3}{4}, \frac{2}{5}, \frac{7}{10}$       D)  $\frac{3}{4}, \frac{7}{10}, \frac{2}{5}$       E)  $\frac{7}{10}, \frac{2}{5}, \frac{3}{4}$

17) Sandile has an average of 75 from his first 3 class tests. What would be his new average if he gets 87 from the 4<sup>th</sup> test?

- A) 78      B) 80      C) 81      D) 77      E) 83

18) If ABC is a 3-digit number where A, B and C are different digits. The difference between the highest and smallest possible values of ABC is

- A) 900      B) 888      C) 885      D) 864      E) 899

19) Which of the following is not a prime number?

- A) 17      B) 37      C) 47      D) 57      E) 97

20) What is the 30% of 25% of 20% of 3000?

- A) 2250      B) 750      C) 150      D) 50      E) 45