

GRADE:
NAME:
SURNAME:

HMC 2014 - FIRST ROUND

FOR MATHEMATICS TEACHER
LEARNER'S
MARK

HORIZON MATHEMATICS COMPETITION

1. $0.001 + 0.01 + 0.1 + 1 = ?$

- A) 0.111 B) 0.0111 C) 1 D) 0.1 E) 1.111

2. $12 - 6 \div 3 + 1 \times 2 = ?$

- A) 8 B) 6 C) 12 D) 10 E) 11

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

- A) 2^{-2} B) 2^2 C) 8 D) 0 E) 2

4. The next number in the sequence; 1, 2, 4, 7, 11, 16, ... is

- A) 22 B) 21 C) 20 D) 19 E) 18

5. Which of the following fractions has the largest value?

- A) $55/44$ B) $444/333$ C) $33/22$ D) $2/1$ E) $1/2$

6. $\frac{1}{2} + \frac{2}{3} = ?$

- A) $\frac{3}{5}$ B) $\frac{5}{6}$ C) $\frac{7}{6}$ D) $\frac{3}{2}$ E) 1

7. $11.001 - 1.011 = ?$

- A) 10.01 B) 9.010 C) 10.001 D) 10.10 E) 9.99

8. The length of a rectangle is 10cm and perimeter is 30cm. What is its breadth?

- A) 1cm B) 0cm C) 15cm D) 10cm E) 5cm

9. Three children ate 17 apples altogether. Thabo ate more apples than any other child. What is the smallest possible number of apples that Thabo ate?

- A) 5 B) 9 C) 6 D) 8 E) 7

10. Vuyo draws lions: a yellow one, then a brown, then a red, then a white, a yellow, a brown, a red, a white, and so on...What colour is the 19th lion?

- A) Yellow B) Brown C) Red D) Black E) Pink

11) How many integers can someone find in the interval from 1.17 to 13.78?

- A) 13 B) 12 C) 11 D) 14 E) infinite

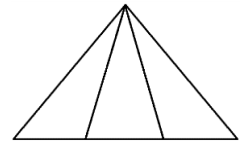
12) Which is the smallest positive integer divisible by 3, 4, and 6?

- A) 6 B) 18 C) 36 D) 24 E) 12

13) John has 2 banknotes of 200 rand, 3 banknotes of 100 rand, and 2 coins of 5 rand. How much money does he have in total?

- A) R310 B) R710 C) R305 D) R1000 E) R1005

14) How many triangles does the following diagram have?

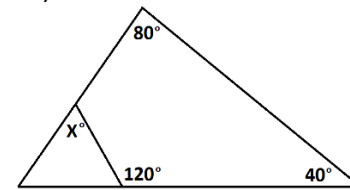


- A) 3 B) 4 C) 5 D) 6 E) 7

15) If $a\#b = 5 \times b - a^2$, then find $5\#6$

- A) 0 B) -1 C) 1 D) 25 E) 5

16) What is the value of X?



- A) 60° B) 40° C) 80° D) 100° E) 120°

17. Adam and Peter shared R120. Adam's share is R10 more than Peter's share. How much money does Adam have?

- A) R60 B) R65 C) R50 D) R55 E) R70

18. The perimeter of a triangle is 48cm. If the sides of this triangle are consecutive integers, the longest one is

- A) 16cm B) 15cm C) 14cm D) 18cm E) 17cm

19) Helen has 29 small balls of different colours: yellow, green, blue and black. 20 of the balls are not green, 7 are black, and 21 are not yellow. How many blue balls does Helen have?

- A) 19 B) 4 C) 5 D) 10 E) 8

20) When a barrel is 20% empty it contains 30 litres more than when it is 20% full. How many litres does the barrel hold when full?

- A) 60 B) 50 C) 90 D) 30 E) 45