

1. 25% of 200 equals

- a) 25      b) 50      c) 100      d) 250      e) 15

2. 98,76 - 9,876 equals

- a) 88,884    b) 0      c) 8, 8884    d) 888, 84    e) 1

3.  $\frac{1 \times 2 \times 3 \times 4 \times 5}{1 + 2 + 3 + 4 + 5} = ?$

- a) 0      b) 8      c) 15      d) 12      e) 16

4. if n=6 then the value of  $(n-3)(2n+1)(\frac{2n}{3}-1)$  is

- a) 17      b) 117      c) 107      d) 79      e) 27

5. Which of the followings is between 3/5 and 3/4

- A) 9/10    b) 4/5    c) 16/20    d) 15/20    e) 2/3

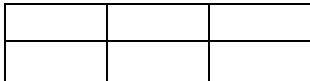
6. The price of an article is decreased by 20%. After that the new price is increased by 30%. What percentage is the final price more than the original price?

- a)10%    b)20%    c)30%    d)40%    e)4%

7.  $8 - 2 \times 3 + 12 \div 4 = ?$

- a)7,5    b)12,5    c)5      d)10      e)15

8. How many rectangles are there in this figure?



- a)7    b)10    c)11    d)18    e)16

9. The sum of 4 even consecutive integers is 2004. What is the biggest number?

- a) 496    b) 498    c) 500    d) 502    e) 504

10. If m is an integer which of the following is always an even number ?

- a) 2m+1    b) m+2    c) 3m+4    d) 2m+4    e)  $\frac{2m+4}{2}$

11. If the pattern continued which of these numbers will appear?

1; 3 ; 7 ; 15 ; 31 ; ?

- a) 33      b) 43      c) 53      d) 63      e) 73

12. If the 15<sup>th</sup> March 2006 is Wednesday, Which day was it 15<sup>th</sup> March 2000?

- a) Monday    b) Tuesday    c) Wednesday    d) Friday    e) Sunday

13.  $(1 + \frac{1}{2})(1 + \frac{1}{3})(1 + \frac{1}{4})(1 + \frac{1}{5}) \dots \dots \dots (1 + \frac{1}{2006}) = ?$

- a)  $\frac{2007}{2}$     b)  $\frac{2006}{5}$     c)  $\frac{2007}{2006}$     d)  $\frac{2005}{2004}$     e) 1004

14. **Did you know?** In a magic square the sum of the numbers in every horizontal row, vertical column and diagonal are all the same. The value of X is

8	1	
	5	
X		2

- a) 3    b) 4    c) 5    d) 6    e) 7

15.  $2^3 = 2 \times 2 \times 2$      $5^4 = 5 \times 5 \times 5 \times 5$      $1000 = 2^m \times 5^n$  find out the value of mxn=?

- a) 7      b) 12,      c) 5      d) 10      e) 9

16. How many letters are there in this sentence?

- a) 25      b) 26      c) 27      d) 28      e) 36

17. What is the last digit of  $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8 \times 9$  this product ?

- a)1      b)2      c)3      d)4      e)0

18. **A perfect number is a number that** is equal to the sum of the numbers which divide into it exactly, e.g. 6 = 3 + 2 + 1. Which of the following numbers is perfect?

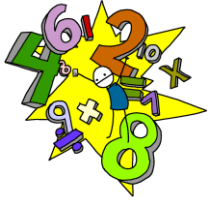
- a)12      b)16      c)20      d)28      e)10

19.  $\frac{5}{6} + \frac{7}{8} = ?$

- a)  $\frac{80}{48}$       b)  $\frac{41}{24}$       c)  $\frac{35}{6}$       d) 2      e) 1

20. If two typists can type two pages in two minutes, how many typists will it take to type 18 pages in six minutes?

- a) 3      b) 4      c) 6      d) 12      e) 18



**MATHS IS LIKE LOVE:  
A SIMPLE IDEA BUT  
IT CAN GET COMPLICATED...**



**Star College**

# **HORIZON MATHEMATICS COMPETITION**

## **HMC 2006 FIRST ROUND**

### **INSTRUCTIONS**

- This exam paper consists of 20 questions of mathematics, logical deduction and analytical reasoning
- The exam duration is 60 minutes and no extra time will be given.
- The final answer must be entered in to correct place on the answer sheet which is supplied separately.
- There is no penalty for incorrect answer.
- Calculators or any other computing device are NOT allowed
- Name, address and tel number sections on the answer sheet must be filled otherwise your exam will not be evaluated.