

GRADE:  
NAME:  
SURNAME:

LEARNER'S MARK

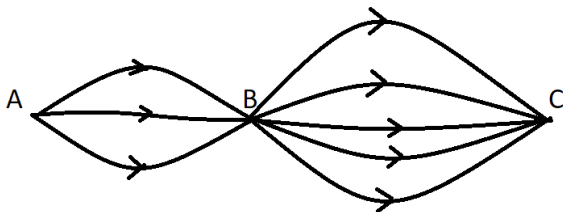
## HMC 2022 - 1ST ROUND

- 1) One sixth of a number decreased by 4 is equal to 3. What is this number?  
A) 36                      B) 42                      C) 46                      D) 54                      E) 72
- 2) Find the next number in the 4; 2; 1;  $\frac{1}{2}$ ;  $\frac{1}{4}$ ; ?, ... ..  
A) 8                      B)  $\frac{1}{3}$                       C)  $\frac{1}{4}$                       D)  $\frac{1}{5}$                       E)  $\frac{1}{8}$
- 3) I am divisible by 5 and also by 6. I am less than 50 and greater than 10. Who am I?  
A) 10                      B) 15                      C) 30                      D) 40                      E) 60
- 4) What is the sum of the greatest 3-digit number with different digits and which is the smallest 4-digit number?  
A) 1999                      B) 1998                      C) 1988                      D) 1987                      E) 1978
- 5) If the day before yesterday is two days after Monday, then what day is it today?  
A) Friday                      B) Saturday                      C) Sunday                      D) Monday                      E) Thursday
- 6) If 8 kilometers is equal to 5 miles then how many kilometers in 35 miles?  
A) 7                      B) 35                      C) 40                      D) 56                      E) 72
- 7) If you have R128 in the box and you remove half of the total for each day, how long will it take for there to be only 25 cents in the box?  
A) 6                      B) 7                      C) 8                      D) 9                      E) 10
- 8) Two dice are thrown and the top face values are added. Which digit is most likely to be the unit digit of the sum?  
A) 2                      B) 3                      C) 5                      D) 6                      E) 7
- 9) The areas of 3 faces of a rectangular box are  $6\text{ cm}^2$ ,  $8\text{ cm}^2$  and  $12\text{ cm}^2$ . The volume of the box is  
A)  $24\text{cm}^3$                       B)  $26\text{cm}^3$                       C)  $48\text{cm}^3$                       D)  $52\text{cm}^3$                       E)  $576\text{cm}^3$
- 10)  $1+3+5+7+\dots+25$  is subtracted from  $2+4+6+8+\dots+26$ . The answer is  
A) 10                      B) 11                      C) 12                      D) 13                      E) 14
- 11) A shop owner has only a 1 kg, 2kg, 4kg, and 8 kg weight for the balancing scale. Which of the following bags of flour cannot be weighted on this balance scale?



- A) 16                      B) 15                      C) 7                      D) 5                      E) 3

- 12) How many different routes are there from A to C passing through B moving along the routes in the direction of arrows?



- A) 8                      B) 9                      C) 10                      D) 12                      E) 15

- 13) The letters in the word MATHEMATICIAN were put in a box. What is the chance of getting letter A?

- A) 3 out of 9                      B) 3 out of 10                      C) 3 out of 13                      D) 1 out of 11                      E) 3 out of 11

14) There is a bus with 3 girls. Each girl has 3 bags. There are 3 cats in each bag.  
How many legs in total are there in the bus?

Hint: Each cat has 4 legs and each girl has 2 legs

- A) 120                      B) 100                      C) 108                      D) 114                      E) 126



15) A, B, C, D, E and F are towns situated as follows;

- \* A is 30 km east of D
- \* C is 20 km east of E
- \* F is 10 km west of B
- \* D is 10 km south of F
- \* A is 10 km north of C

How far would you need to travel to get from B to E?

- A) 30km West              B) 20km North              C) 10km South              D) 20km South              E) 30km East

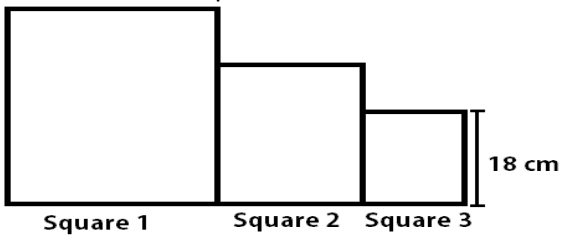
16) Harry and Terry are each told to calculate  $8 - (2 + 5)$ . Harry gets the correct answer. Terry ignores the brackets and calculates  $8 - 2 + 5$ . If Harry's answer is  $H$  and Terry's answer is  $T$ , what is the value of  $H - T$ ?

- A) - 10                      B) - 6                      C) 0                      D) 6                      E) 10

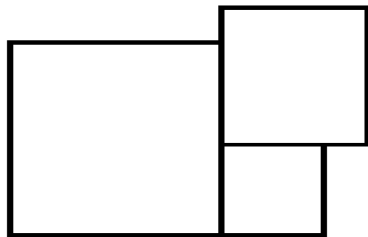
17) What is half 5, 4?

- A) 2,5                      B) 2,7                      C) 10,8                      D) 3                      E) 2

18) There are three squares with their sides are 5cm less than other.

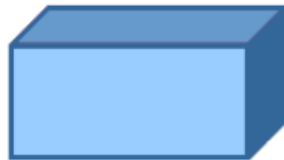


A shape is made by these three squares. What is the perimeter of new shape below:



- A) 170 cm                      B) 184 cm                      C) 192 cm                      D) 198 cm                      E) 204 cm

19) Find the ratio between number faces and number of edges in the below rectangular prism.



- A)  $\frac{2}{3}$                       B)  $\frac{1}{4}$                       C)  $\frac{1}{2}$                       D)  $\frac{1}{5}$                       E)  $\frac{5}{12}$

20) What fraction of the square is shaded if the line inside divides the square into two equal parts?



- A) 1/2                      B) 1/3                      C) 3/8                      D) 3/5                      E) 3/4