

# Mathematica Centrum

Together, let's shape the mathematicians of the future

## BYRON-GERMAIN PREPARATORY 2019

1. The missing number in the equation:  $8 \times 3 = 4 \times ?$  is

- A) 8                      B) 9                      C) 10                      D) 6                      E) 7

2. The sum of  $8 + 50 + 200 + 6\,000$  is

- A) 6 258                      B) 6 558                      C) 6 858                      D) 6 238                      E) 6 458

3. The value of  $(15 \div 3) \times (16 - 9)$  is a multiple of

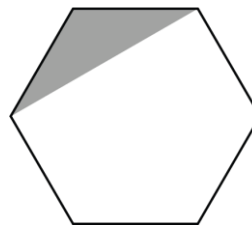
- A) 2                      B) 3                      C) 4                      D) 5                      E) 6

4. 20 nickels = ? quarters.

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

5. What fraction of the hexagon is shaded?

- A)  $\frac{1}{6}$                       B)  $\frac{1}{5}$                       C)  $\frac{1}{4}$   
D)  $\frac{1}{3}$                       E)  $\frac{1}{2}$

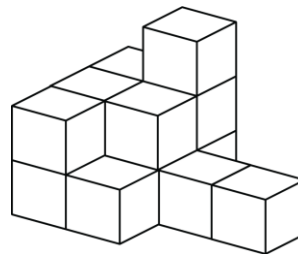


6. A natural number is multiplied by 7.  
The result could not be

- A) 42                      B) 56                      C) 88  
D) 49                      E) 63

7. How many blocks are there in the pile?

- A) 10                      B) 11                      C) 12  
D) 13                      E) 14



8. If the last day of January is a Wednesday,  
then January 11 was a

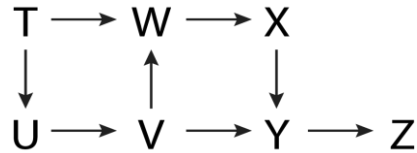
- A) Wednesday                      B) Thursday                      C) Friday                      D) Saturday                      E) Sunday

9. When twice 100 is multiplied by one quarter of 12, the result is

- A) 150                      B) 300                      C) 600                      D) 200                      E) 250

10. 10 dm = ? m

- A) 100                      B) 20                      C) 5  
D) 10                        E) 1



11. T, U, V, W, X, Y, and Z are players that participated in a chess tournament.  $T \rightarrow U$  means that T has won a game against U. How many players have not won a single game?

- A) 0                      B) 1                      C) 2                      D) 3                      E) 4

12. A 2-digit natural number is multiplied by a 2-digit natural number. The product could be a natural number that has

- A) 4 digits                      B) 6 digits                      C) 5 digits                      D) 7 digits                      E) 2 digits

13. Which of the following expressions is the largest?

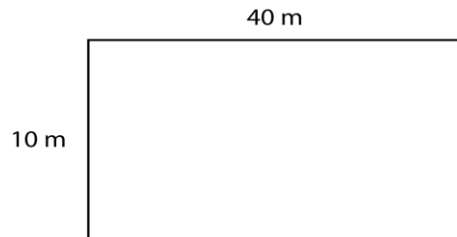
- A) 3!                      B) 4!                      C) 5!                      D) 2! x 3!!                      E) 6!

14. A jar is full of old pennies, nickels, dimes, and quarters. Andrea removes 7 coins having a total value of 82¢. How many dimes did she remove?

- A) 0                      B) 1                      C) 2                      D) 3                      E) 4

15. A rectangular piece of land measures 40 m x 10 m. If both its length and its width increase by 5 m, then its perimeter will increase by

- A) 18 m                      B) 20 m                      C) 16 m  
D) 14 m                      E) 22 m



16. I weigh 20 kg more than half of my weight. How many kilograms do I weigh?

- A) 42 kg                      B) 48 kg                      C) 40 kg                      D) 44 kg                      E) 46 kg

17. If you could spend \$1 every second, how much could you spend in a minute?

- A) \$50                      B) \$58                      C) \$60                      D) \$72                      E) \$24

18. A die is rolled once. What is the probability of getting a 6?

- A) 3/6                      B) 1/6                      C) 2/6                      D) 4/6                      E) 5/6

19. How many even multiples of 3 are there between 0 and 100?

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

20. What is the value of the following series:  
 $1 + 3 + 5 + 7 + 9 + \dots + 51$ ?

- A) 668                      B) 670                      C) 672  
D) 674                      E) 676

