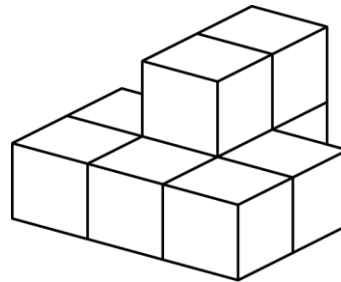


Mathematica Centrum

Together, let's shape the mathematicians of the future

BYRON-GERMAIN PREPARATORY TEST 2024

- The number of vertices of a cube plus the number of faces of a cube is equal to
A) 24 B) 40 C) 48 D) 14 E) 36
- Nine hundred minus six hundred five is equal to
A) 295 B) 299 C) 300 D) 301 E) 302
- The value of X in the equation $18 \div X = 15 - 12$ is
A) 3 B) 5 C) 6 D) 4 E) 2
- $1 \times 2 \times 3 \times 4 = 4 \times ?$
A) 5 B) 6 C) 4 D) 12 E) 8
- The product of $10 \times 10 \times 3$ is
A) 100 B) 20 C) 3 000 D) 300 E) 30
- Nine (9) blocks were glued together. How many faces of these 9 blocks are covered with glue?
A) 24 B) 26 C) 28
D) 30 E) 22
- $(8 \times 100) + (5 \times 10) + 9$ is equal to
A) 809 B) 789 C) 859
D) 810 E) 819
- One person can pick 12 apples in 6 minutes. In 60 minutes, this person could pick about
A) 200 B) 80 C) 90 D) 120 E) 150
- Mathew has \$2 and \$5 coins only. The minimum number of coins Mathew can have if he has an amount of \$17 is
A) 1 B) 2 C) 3 D) 4 E) 7



10. The next number in the sequence: 3, 9, 7, 21, 19, 57 is

- A) 55 B) 54 C) 43 D) 41 E) 42

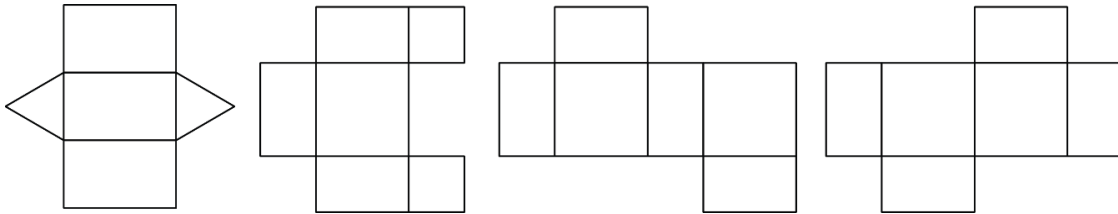
11. How many even numbers are there between 0 and 100?

- A) 51 B) 98 C) 50 D) 49 E) 99

12. Which product is not equal to an even number?

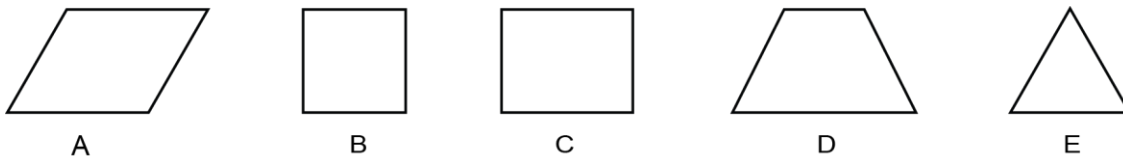
- A) $12 \times 9 \times 3 \times 5$ B) $3 \times 5 \times 20 \times 11$ C) $15 \times 3 \times 12$ D) $8 \times 9 \times 27 \times 21$ E) $1 \times 3 \times 5 \times 7$

13. How many of the following 4 nets cannot form a rectangular prism?



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

14. Which of the figures below has 1 line of symmetry?

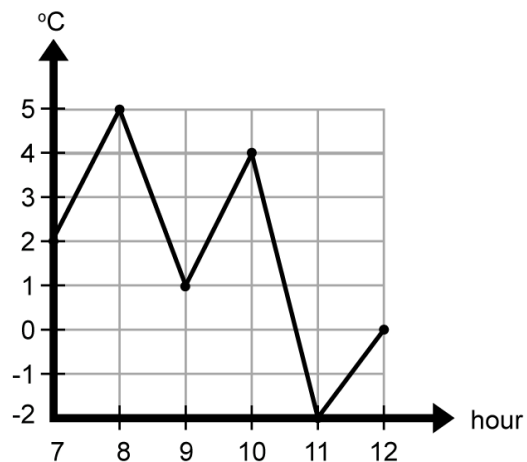


15. How many natural numbers between 10 and 100 are divisible by 10?

- A) 100 B) 20 C) 8 D) 9 E) 10

16. A scientist has recorded the temperature in degrees Celsius ($^{\circ}\text{C}$) every hour from 7 A.M. to 12 A.M. The broken-line diagram shows the data recorded. What is the difference between the highest temperature and the lowest temperature recorded?

- A) 6°C B) 5°C C) 3°C
 D) 7°C E) 4°C



17. Mathilda has drawn as many squares as hexagons (6-sided polygons). When she counts the number of sides of all the figures drawn, the total counted is 60. How many figures did she draw?

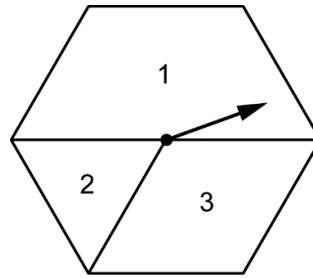
- A) 16 B) 12 C) 8 D) 18 E) 14

18. Andrea's car is 60 dm long. Which of the following is equal to 60 dm?

- A) 600 cm B) 60 m C) 600 mm D) 6 cm E) 0.6 m

19. Mathilda built the hexagonal spinner shown in the diagram. If she were to spin the spinner 1 500 times, which answer best represents the approximate number of times she could expect to get a 1?

- A) 750 times B) 1 200 times C) 380 times
D) 500 times E) 400 times



20. How many 3-digit natural numbers can you form if you use each of the digits 1, 2, and 3 only once in each number formed?

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