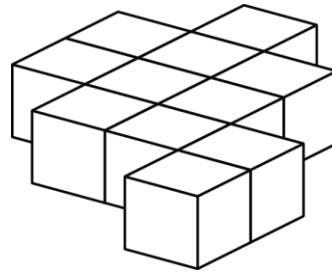


# Mathematica Centrum

Together, let's shape the mathematicians of the future

## BYRON-GERMAIN PREPARATORY TEST 2012

- The number of edges of a cube multiplied by the number of faces of a cube is equal to  
A) 18                      B) 60                      C) 48                      D) 66                      E) 72
- How many factors do 6 and 15 have in common?  
A) 1                          B) 4                          C) 5                          D) 3                          E) 2
- The largest 4-digit even number that can be written with the digits 1, 8, 6, and 4 is  
A) 8 641                      B) 6 814                      C) 8 614                      D) 4 681                      E) 1 468
- The average of 0, 2, 4, 6, and 8 is  
A) 3.5                          B) 4.5                          C) 5.5                          D) 4                          E) 5
- The missing number in the sequence: 3 500, 3 250, ?, 2 750, 2 500 is  
A) 3 000                      B) 3 150                      C) 3 125                      D) 3 200                      E) 3 175
- Eleven blocks have been glued together as shown in the diagram. How many faces of these blocks have no glue on them?  
A) 40                          B) 42                          C) 44  
D) 38                          E) 46
- 16 quarters = ? dimes  
A) 25                          B) 30                          C) 40  
D) 45                          E) 50
- Write the following 5 numbers: 3 782, 2 863, 1 935, 2 926, 3 931 in increasing order (from the smallest to largest). The fourth number written is  
A) 3 782                      B) 2 863                      C) 3 931                      D) 1 935                      E) 2 926
- What number is 10 more than the number that is 10 times smaller than 10?  
A) 21                          B) 10                          C) 11                          D) 20                          E) 12



10. 11 hundreds - 280 + 14 tens = ?

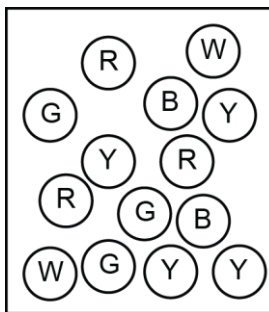
- A) 960                      B) 1 020                      C) 980                      D) 1 050                      E) 950

11. The base of a prism has 7 sides. The sum of the number of edges plus the number of vertices is

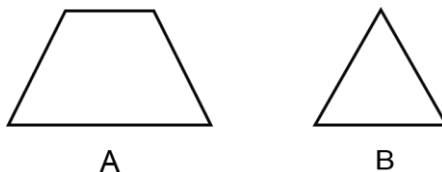
- A) 32                      B) 30                      C) 34                      D) 35                      E) 36

12. Without looking, Mathew picks one marble from the box .  
What colour (Red, Green, Yellow, Black or White) is Mathew most likely to choose?

- A) Red                      B) Green                      C) Yellow  
D) Black                      E) White



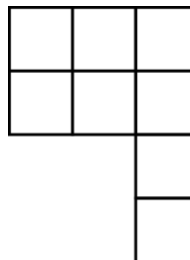
13. The sum of the number of lines of symmetry of figure A and of figure B is equal to



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

14. How many 3-digit numbers can you form if you use the 3 following digits: 0, 1, and 2 only once?

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

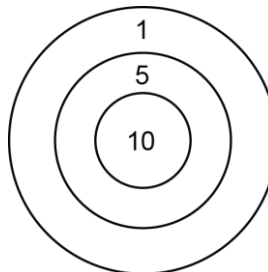


15. The figure shown is made of 8 small squares. The side of each small square is 1 cm long. What is the perimeter of this figure?

- A) 17 cm                      B) 13 cm                      C) 16 cm  
D) 14 cm                      E) 15 cm

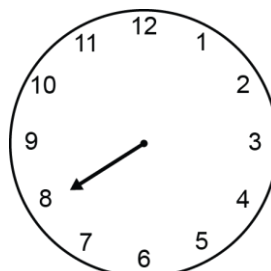
16. A target is composed of 3 distinct areas. When hit, the areas are worth 1, 5, or 10 points. Mathusalem hit the target 8 times and scored 38 points. How many times did he hit the 5-point area?

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



17. The clock shown in the diagram has just lost its minute hand. What is the approximate time it lost it?

- A) 7:30                      B) 7:32  
C) 7:28                      D) 7:55  
E) 7:40



18. How many odd numbers are there between 80 and 180?

- A) 49                      B) 51                      C) 50                      D) 52                      E) 100

19. Three people (I, II, and III) bought liquid soap. I bought 250 ml for \$4.50, II bought 750 ml for \$12.35, and III, 500 ml for \$8.90. The best buy was made by

- A) I only                      B) II only                      C) III only                      D) I and II                      E) II and III

20. How many multiple of 3 are there between 102 and 120?

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