

IBSMO

International British Science & Mathematics Olympiad

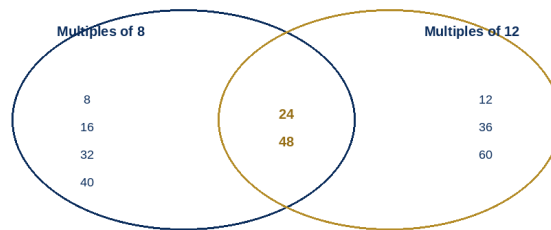
Mathematics — Sample Questions

Intermediate Level

Grade 5–6

Question 1 — Number Theory

The diagram below shows the multiples of 8 and the multiples of 12, with the numbers that belong to both sets in the overlap.



What is the lowest common multiple (LCM) of 8 and 12?

- A) 16
- B) 24 ✓
- C) 36
- D) 48

Answer: B. 24 is the smallest number that appears in both the multiples of 8 and the multiples of 12.

Question 2 — Algebra

The diagram below represents the equation $5x - 7 = 28$, where each of the five equal sections on the left represents one x .



$5x - 7 = 28$. What is x ?

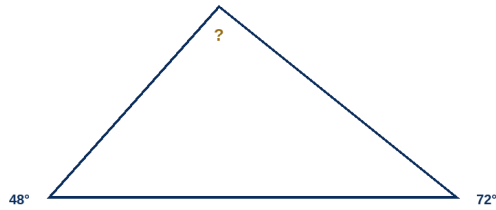
What is the value of x ?

- A) 5
- B) 6
- C) 7 ✓
- D) 8

Answer: C. $5x - 7 = 28 \rightarrow 5x = 35 \rightarrow x = 7$.

Question 3 — Geometry

The triangle below has two of its angles marked.



What is the size of the third angle?

- A) 50°
- B) 55°
- C) 60° ✓
- D) 70°

Answer: C. The angles of a triangle sum to 180° : $180 - 48 - 72 = 60^\circ$.

Question 4 — Logical Thinking

A 54 cm ribbon is cut into two pieces in the ratio 4:5, as shown in the diagram below.



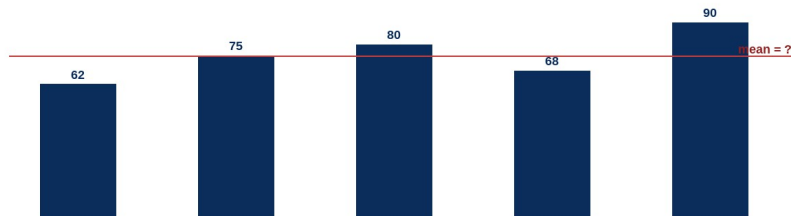
What is the length of the longer piece?

- A) 24 cm
- B) 27 cm
- C) 30 cm ✓
- D) 32 cm

Answer: C. $4 + 5 = 9$ parts; $54 \div 9 = 6$ cm per part; the longer piece = $5 \times 6 = 30$ cm.

Question 5 — Data Analysis

The bar chart below shows five students' test scores.



What is the mean (average) of the five scores?

- A) 72
- B) 75 ✓
- C) 78

D) 80

Answer: B. $Sum = 62 + 75 + 80 + 68 + 90 = 375$; $mean = 375 \div 5 = 75$.