

1 A solid object has 5 faces, 9 edges, and 6 vertices. Which of the following could it be?

- A Triangular prism    B Rectangular pyramid    C Pentagonal prism    D Hexagonal pyramid

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2 Amelia is trying to figure out an equation.

When  $x = 4$ , the result of the equation is 20.

Which of the following could not be Amelia's equation?

- A  $5x + 5$     B  $x^2 + 4$     C  $6x - 4$     D  $3x + 8$

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3 John is thinking of a 3D shape. He says, 'It has a square base and four triangular faces that meet at a point.'

Which of these options could be John's shape?

- A Triangular prism    B Square-based pyramid    C Tetrahedron    D Octahedron

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4 A sunflower is currently  $x$  cm tall.

After a week, it grows by 5 cm.

After another week, its height is triple what it was at the start.

What is the height of the sunflower after the second week in terms of  $x$ ?

- A  $3(x + 5)$  cm    B  $x + 3 \times 5$  cm    C  $3x + 5$  cm    D  $5x + 3$  cm

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5 Amelia is making bracelets for a school fundraiser.

It takes her 4 minutes to make each bracelet.

She spends a total of 148 minutes making bracelets.

How many bracelets did Amelia make?

- A 37    B 32    C 29    D 41

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**6**

Liam swims for 120 seconds, then rests for three minutes.

He repeats this five times, starting at 2:15 pm.

At what time does he finish his swimming session?

A 2:40 pm

B 2:45 pm

C 2:35 pm

D 2:50 pm

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**7**

Amir is watching a film that is 120 minutes long.

The film has three commercial breaks, which split the movie into four equal parts.

He starts watching the film at 14:30.

At what time will the first commercial break begin?

A 14:57

B 15:00

C 14:45

D 15:10

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**8**

In a science experiment, a solution was diluted by a factor of 100.

If the final concentration of the solution is  $2.5 \times 10^{-3}$  mol/L, what was the original concentration before dilution?

A 0.25 mol/L

B 0.025 mol/L

C 2.5 mol/L

D 0.25 mol/L

1

**9**

A train departs from London at 14:35 and is scheduled to arrive in Manchester after a journey of 2 hours and 40 minutes.

At what time is the train due to arrive in Manchester?

A 17:15

B 15:15

C 16:15

D 17:25

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**10**

A bakery is making a special cake for a wedding. The cake consists of three tiers:

The bottom tier is a large rectangular sponge cake weighing 2.75 kg.

The middle tier is a medium-sized circular fruit cake weighing 1.92 kg.

The top tier is a small square chocolate cake weighing 1.18 kg.

What is the total weight of the wedding cake?

A 5.85 kg

B 5.75 kg

C 5.95 kg

D 6.05 kg

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