4.13 Volume of a Prism: 10-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

Formulae You May Need

Revision Library formulae reminder, styled on Edexcel 1MA1 formulae-sheet conventions; wording is original.

Volume of a prism = area of cross section x length

Area of a trapezium = (1/2) x (a + b) x h

Note: on the Edexcel formulae sheet, both of these formulae are given to you (foundation and higher tiers). You still need to recall the area of a rectangle (A = l x w), the area of a triangle (A = (1/2) x b x h) and the area of a parallelogram (A = b x h) yourself - these are not given.

1 litre = 1000 cm^3

1 m^3 = 1,000,000 cm^3 (since 1 m = 100 cm, and 100^3 = 1,000,000)

1 Which formula correctly gives the volume of any prism?

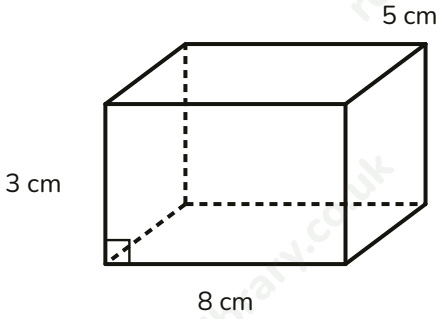
- ☐ A) perimeter of cross-section x length
- ☐ B) area of cross-section x length
- ☐ C) area of cross-section + length
- ☐ D) area of cross-section x perimeter

(Total for Question 1 is 1 mark)

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2 A cuboid has length 8 cm, width 5 cm and height 3 cm.
Work out the volume of the cuboid.

Diagram NOT accurately drawn

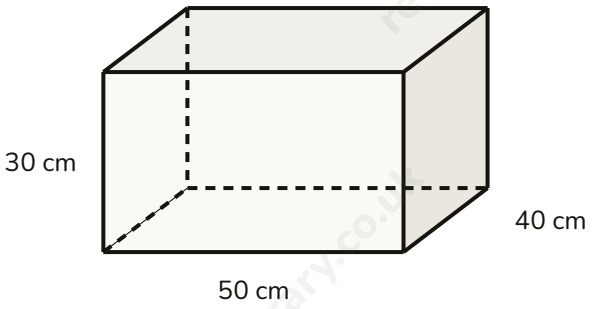


(Total for Question 2 is 2 marks)

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3 A water tank is a cuboid measuring 50 cm by 40 cm by 30 cm. Water flows into the empty tank at a constant rate of 2 litres per minute.
Work out how long it will take to completely fill the tank. Give your answer in minutes.

Diagram NOT accurately drawn

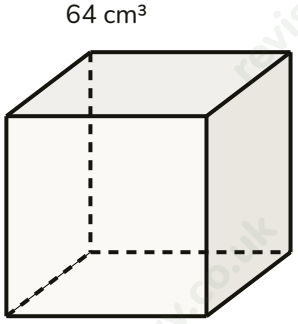


(Total for Question 3 is 4 marks)

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4 A cube has volume 64 cm³. Work out the edge length of the cube.

Diagram NOT accurately drawn



(Total for Question 4 is 2 marks)

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Mark scheme · 4.13 Volume of a Prism: 10-minute Pack

Question 1

B selected cao	**B1**

Answer: B

Question 2

8 x 5 x 3 oe	**M1**
120 cao (units cm^3)	**A1**

Answer: 120 cm^3

Question 3

50 x 40 x 30 (= 60000) oe	**M1**
60 litres ft (60000 cm^3 converted using 1 litre = 1000 cm^3)	**A1**
60 / 2 ft (their capacity in litres divided by 2)	**M1**
30 minutes cao	**A1**

Answer: 30 minutes

Question 4

correct method to find a cube root, e.g. cube root of 64 (oe)	**M1**
4 cm (cao)	**A1**

Answer: 4 cm

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