HIGHER

6.8 Similar Shapes (Area and Volume): 10-minute Pack

Total Marks

EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Two mathematically similar shapes have a linear scale factor of 5 from the smaller shape to the larger shape. The area of the smaller shape is 6 cm². Work out the area of the larger shape.

(Total for Question 1 is 2 marks)

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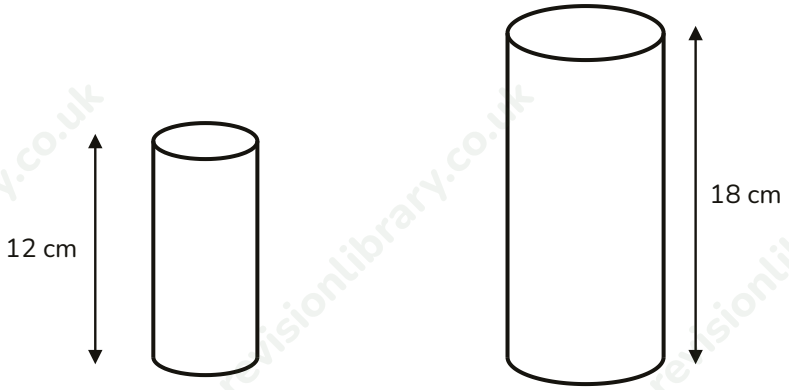
2 Two mathematically similar shapes have areas of 18 cm² and 72 cm². Find the linear scale factor from the smaller shape to the larger shape.

(Total for Question 2 is 2 marks)

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3 A cylindrical tin of paint has height 12 cm. Coating the curved surface area of the tin uses 250 ml of paint. A mathematically similar cylindrical tin has height 18 cm. The amount of paint needed is proportional to the curved surface area of the tin.

Diagram NOT accurately drawn



(Total for Question 3 is 4 marks)

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Mark scheme · 6.8 Similar Shapes (Area and Volume): 10-minute Pack

Question 1

area scale factor = 5^2 (=25)	**M1**
150 cao, units cm^2	**A1**

Answer: 150 cm^2

Question 2

area ratio = 72/18 (=4) oe	**M1**
2 cao	**A1**

Answer: 2

Question 3

linear scale factor = 18/12 (=1.5) oe	**M1**
area scale factor = 1.5^2 (=2.25)	**M1**
250 x 2.25	**M1**
562.5 (ml) cao, awrt 563	**A1**

Answer: 562.5 ml

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