4.18 Congruence and Similarity: 10-minute Pack

Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Rectangle R is similar to rectangle S. R measures 4 cm by 9 cm. S has a width of 6 cm. Find the length of S.

(3)

2 A map uses a scale where 1 cm represents 2 km. Two similar triangular fields on the map have corresponding heights 3.5 cm and 5.25 cm. Find the actual difference in height of the fields in metres.

(3)

3 Triangle ABC has angles 30 degrees, 60 degrees and 90 degrees. Triangle DEF also has angles 30 degrees, 60 degrees and 90 degrees. Are the triangles similar? Explain briefly, including what this tells you about the side lengths.

(2)

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Mark scheme · 4.18 Congruence and Similarity: 10-minute Pack

Question 1

Find scale factor: 6/4 = 3/2	**M1**
Multiply 9 by 3/2 to get 13.5	**M1**
Answer 13.5 cm cao	**A1**

Answer: **13.5 cm**

Question 2

Find map difference: 5.25 - 3.5 = 1.75 cm	**M1**
Convert to real distance: 1.75 cm -> 1.75 x 2 km = 3.5 km	**M1**
Convert to metres: 3.5 km = 3500 m cao	**A1**

Answer: **3500 m**

Question 3

Recognise that equal corresponding angles give similarity by AA	**M1**
State triangles are similar because corresponding angles are equal (AA), so corresponding side lengths must be in the same proportion; accept correct explanation	**A1**

Answer: **They are similar because their corresponding angles are equal (AA), so their corresponding side lengths must be in the same proportion (a fixed ratio).**

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