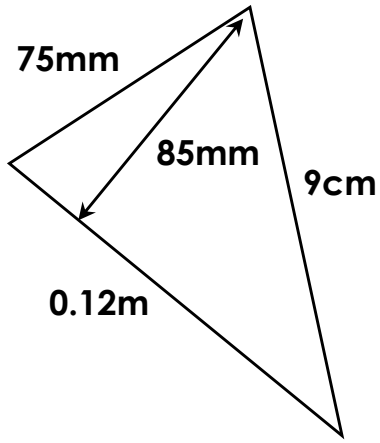
Area of a Triangle 3

7a. Joanna says the area of the triangle below is 54cm^2. Do you agree? Explain your answer.

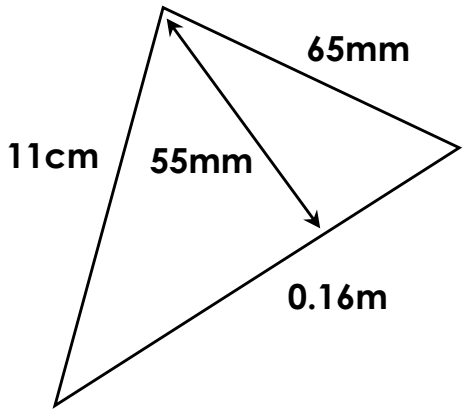


GD

Not to scale

R

7b. Justin says the area of the triangle below is 33cm^2. Do you agree? Explain your answer.

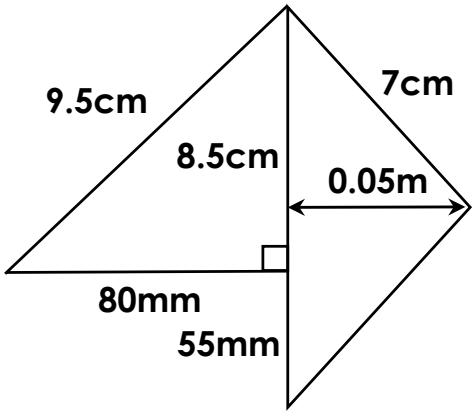


GD

Not to scale

R

8a. What is the area of the composite shape below? Give your answer in cm.

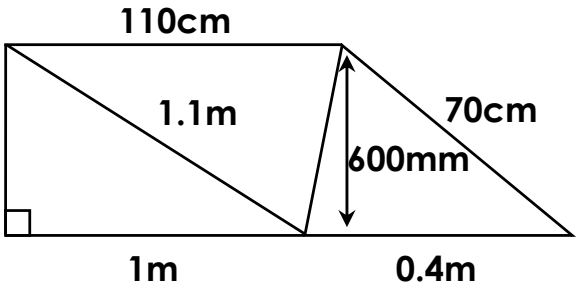


GD

Not to scale

PS

8b. What is the area of the composite shape below? Give your answer in cm.



GD

Not to scale

PS

9a. The area of the composite shape below is 64.5m^2.



Section it into 3 triangles and work out the measurements of the base and height of each one.

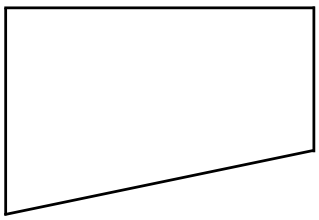
Two of the triangles are identical.

GD

Not to scale

PS

9b. The area of the composite shape below is 45.5m^2.



Section it into 3 triangles and work out the measurements of the base and height of each one.

Two of the triangles are identical.

GD

Not to scale

PS

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Reasoning and Problem Solving
Area of a Triangle 3

Developing

1a. Eva is correct. 9cm x 4cm = 36cm^2; 36cm^2 ÷ 2 = 18cm^2.

2a. 72cm^2; 9cm x 8cm ÷ 2 = 36cm^2 x 2 = 72cm^2.

3a. 6cm x 4cm; 12cm x 2cm; 8cm x 3cm.

Expected

4a. Amy is incorrect. She has multiplied the base by the height but has forgotten to divide the answer by 2. The area of the triangle is 33cm^2, not 66cm^2.

5a. 40m^2; 8m x 4m ÷ 2 = 16m^2 x 2 = 32m^2; 4m x 4m ÷ 2 = 8m^2; 32m^2 + 8m^2 = 40m^2.

6a. Triangle 1 = 8m (base), 2m (height); Triangle 2 = 8m (base), 2m (height); Triangle 3 = 8m (base), 2m (height).

Greater Depth

7a. Joanna is incorrect. She has chosen the wrong length when multiplying; she should have multiplied 0.12m by 85mm, not 9cm. The area of the triangle is 51cm^2, not 54cm^2.

8a. 69cm^2; 8cm x 8.5cm ÷ 2 = 34cm^2; 5cm x 14cm ÷ 2 = 35cm^2; 34cm^2 + 35cm^2 = 69cm^2.

9a. Triangle 1 = 9m (base), 6m (height); Triangle 2 = 9m (base), 6m (height); Triangle 3 = 3.5m (base), 6m (height).

Reasoning and Problem Solving
Area of a Triangle 3

Developing

1b. Noah is incorrect. He has multiplied the base by the height but has forgotten to divide the answer by 2. The area of the triangle is 20cm^2, not 40cm^2.

2b. 208cm^2; 13cm x 16cm ÷ 2 = 104cm^2 x 2 = 208cm^2.

3b. 18cm x 2cm; 6cm x 6cm; 4cm x 9cm.

Expected

4b. Eddie is correct. 14cm x 5cm = 70cm^2; 70cm^2 ÷ 2 = 35cm^2.

5b. 57m^2; 6m x 6m ÷ 2 = 18m^2 x 2 = 36m^2; 7m x 6m ÷ 2 = 21m^2; 36m^2 + 21m^2 = 57m^2.

6b. Triangle 1 = 7m (base), 4m (height); Triangle 2 = 7m (base), 4m (height); Triangle 3 = 2m (base), 4m (height).

Greater Depth

7b. Justin is incorrect. He has not included the 0.5cm when multiplying the base and height; he should have multiplied 5.5cm by the base, not 5cm. The area of the triangle is 44cm^2, not 40cm^2.

8b. 7,500cm^2; 40cm x 60cm ÷ 2 = 1,200cm^2; 100cm x 60cm ÷ 2 = 3,000cm^2; 110cm x 60cm ÷ 2 = 3,300cm^2; 1,200cm^2 + 3,000cm^2 + 3,300cm^2 = 7,500cm^2.

9b. Triangle 1 = 7m (base), 4m (height); Triangle 2 = 7m (base), 4m (height); Triangle 3 = 7m (base), 5m (height).

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