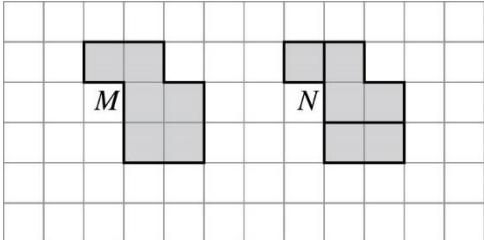


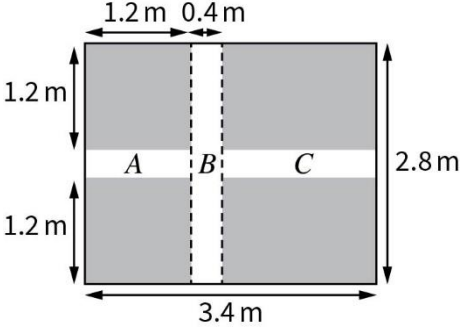
Oxford Revise | AQA GCSE Maths Foundation | Answers

Chapter 22 Similarity and congruence

Question	Answer	Extra information	Marks
22.1 (a)	RHS		1
22.1 (b)	SSS		1
22.1 (c)	SAS		1
22.2	A and F	A and F only	1
22.3		There are several possibilities; this is just one of them.	1
22.4 (a)	$DF = 24$ cm		1
22.4 (b)	35°		1
22.5	A and D		1

Question	Answer	Extra information	Marks
22.6	$\frac{y}{24} = \frac{40}{16}$ $y = \frac{40}{16} \times 24 = 60 \text{ cm}$	<p>Equating suitable ratios of sides</p> <p>Correct answer</p>	<p>1</p> <p>1</p>
22.7	$\frac{19.5}{13} = \frac{18}{12} = \frac{7.5}{5} = 1.5$ <p>The scale factor is 1.5 in each case, so the triangles are similar.</p>	<p>Comparing ratios of at least two pairs of sides</p> <p>Scale factor of 1.5 or $\frac{3}{2}$ with conclusion</p>	<p>1</p> <p>1</p>
22.8	$\frac{AC}{AB} = \frac{AD}{AE}$ $\frac{11.5}{9.2} = \frac{AD}{8.4}$ $AD = 10.5$ $ED = AD - AE$ $= 10.5 - 8.4$ $= 2.1 \text{ cm}$	<p>Comparing ratios of two pairs of sides</p> <p>Correct answer of 2.1 cm</p>	<p>1</p> <p>1</p>

Question	Answer	Extra information	Marks
22.9	<p>The third angle in Sonny's triangle is 75°</p> <p>The third angle in Blair's triangle is 45°</p> <p>So, the two triangles have the same three angles.</p> <p>However, with no knowledge of the side lengths, all we can say for sure is that the triangles are similar. They are not likely to be congruent.</p>	<p>Calculating the third angle in each triangle</p> <p>Identifying that the two triangles have the same three angles</p> <p>Correct answer with full justification.</p>	<p>1</p> <p>1</p> <p>1</p>
22.10 (a)	$\frac{10}{2.5} = \frac{CD}{5}$ $CD = 20 \text{ cm}$	<p>Comparing ratios of two pairs of sides</p> <p>Correct answer</p>	<p>1</p> <p>1</p>
22.10 (b)	$\frac{10}{2.5} = \frac{DE}{8}$ $CD = 32 \text{ cm}$	<p>Comparing ratios of two pairs of sides</p> <p>Correct answer</p>	<p>1</p> <p>1</p>
22.11	$\frac{RS}{PR} = \frac{RQ}{RS}$ $\frac{5}{20} = \frac{RQ}{5}$ $RQ = 1.25 \text{ cm}$ <p>Area of RQTS = $1.25 \times 5 = 6.25 \text{ cm}^2$</p>	<p>Comparing ratios of two pairs of sides</p> <p>RQ = 1.25 cm</p> <p>Area = 5 times RQ</p> <p>Correct answer</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>

Question	Answer	Extra information	Marks
22.12	 <p>Area A = $1.2 \times 0.4 = 0.48 \text{ m}^2$ Area B = $2.8 \times 0.4 = 1.12 \text{ m}^2$ Area C = $1.8 \times 0.4 = 0.72 \text{ m}^2$ Total area = $0.48 + 1.12 + 0.72 = 2.32 \text{ m}^2$</p>	<p>Any correct rectangular area All rectangular areas correct Correct sum</p>	<p>1 1 1</p>
22.13	<p>Points plotted on a coordinate grid at $(0, -3)$, $(1, 1)$, $(2, 5)$ and $(3, 9)$ Straight line drawn through all points</p>		<p>1 1</p>