

Topic 13 Similar shapes (Post-TT) [26] MARKSCHEME

1.

2.5	3 <small>2 AO1.3b 1 AO2.3a</small>	M2 for $7.5 \div (16.5 \div 5.5)$ oe Or M1 for $\frac{h}{5.5} = \frac{7.5}{16.5}$ oe Or B1 for 3 or $\frac{1}{3}$ oe seen	Condone 2.5 cm
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2.

$$p = 9$$

B1

$$q = 13$$

B1

[2]

3.

125 : 27	B1
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4.

$$\text{Scale factor } \frac{6}{8}$$

M1

$$\frac{6}{8} \times 12$$

M1

$$9$$

A1

[3]

5.

$$(a) \quad \frac{9}{6} = \frac{x}{3.6}$$

M1

$$3.6 \times 1.5 \text{ oe}$$

$$5.4$$

A1

$$(b) \quad \frac{6}{9} = \frac{x}{7.2}$$

M1

$$7.2 \div 1.5 \text{ oe}$$

$$4.8$$

A1

[4]

6.

$AB = DC$ (given)

B1

“given” may be omitted

$\angle ABE = \angle CDE$ alternate (angles)

$\angle BAE = \angle DCE$ alternate (angles)

$\angle AEB = \angle CED$ opposite (angles)

B2

Accept Z angles instead of alternate angles

Any 2 of these for B2

Reasons must be stated

Congruent because

B1 dep

AAS or ASA or SAA

This is dependent on the first B1

Do not accept “congruent because angles and sides are the same”

Alternative method:

ABCD is a parallelogram

B1

AE = EC, DE = EB, angles at E

or AB = DC

(all 3 needed)

B2

Congruent because SAS or SSS

B1

[4]

7.

$\frac{x}{2} = \frac{9}{1.5}$

M1

oe. Scale factor 6, $\frac{1}{6}$ etc.

$(AD =)12$

A1

SC 12 on answer line with no working B1.

$BD = 10$

A1

[3]

8.

SAS	<p>M1 links PQR and PRQ (eg isosceles triangle) with full reasons</p> <p>M1 links TR and SQ with full reasons</p> <p>C1 gives full conclusion for congruency eg SAS</p>
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9.

6.4	<p>P1 Start to process eg. find scale factor (0.4) or $\frac{AE}{4} = \frac{4}{10}$</p> <p>P1 Complete process to find area</p> <p>A1</p>
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