

Question		Answer	Marks	Part Marks and Guidance	
1	(a)	11.6	2	<b>M1</b> for $3.7 + 2.1 + 3.7 + 2.1$ oe	
	(b)	$10x - 6$ or $2(5x - 3)$ final answer	3	<b>M2</b> for $2(3x + 2 + 2x - 5)$ oe soi OR <b>B1</b> for $6x + 4$ seen <b>B1</b> for $4x - 10$ seen  After <b>0</b> , allow <b>SC1</b> for $5x - 3$ seen or for $10x$ seen in answer	
	(c) (i)	48.69 to 48.71	2	<b>M1</b> for $\pi \times 15.5$ oe	
	(ii)	$1.8$ or $\frac{9}{5}$ or $1\frac{4}{5}$  $1.8[0\dots]$ or $\frac{9}{5}$ or $1\frac{4}{5}$	2  1FT	<b>M1</b> for $27.9 \div 15.5$ or $(87.65 \text{ to } 87.7) \div (48.69 \text{ to } 48.71)$  FT <i>their</i> scale factor	

2		4.5 oe	3	<b>M2</b> for $\frac{6}{4} \times 3$ oe or $\frac{3}{4} \times 6$  Or <b>M1</b> for $\frac{6}{4}$ , $\frac{3}{2}$ or $\frac{3}{4}$ oe seen  Condone reciprocals, decimals, $6 \div 4$ etc but not $6 : 4$ Withhold <b>M1</b> if used in wrong context	
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Question		Answer	Marks	Answer
3		Two correct answers with units and correct working, clearly laid out	5	SF = 10/4 oe or with 'internal' ratio eg 6/4 x = 6 × SF = 15cm y = 22.5/SF = 9cm
		As 5 marks but missing some working or units or with SF incorrectly evaluated and remainder of solution correct FT	4 – 3	For the lower mark two correct answers but missing working and units or one answer will be correct with working (with or without units) or SF incorrectly evaluated and remainder of solution correct FT for one answer or both with no units
		SF correct 10/4 or 4/10 or 2 : 5 oe and attempt to use in an evaluated calculation or one correct answer with no working	2 – 1	For the lower mark there will be an attempt to find a SF
		No correct work seen	0	

4	(a)	15	3	<b>M1</b> for $\frac{18}{6}$ or $\frac{6}{18}$ <b>DepM1</b> for $5 \times \text{their} \frac{18}{6}$ or $5 \div \text{their} \frac{6}{18}$	<b>SC1</b> for SF can be awarded here if (a) is not attempted and at least <b>M1</b> scored in (b)
	(b)	5.4	2	<b>M1</b> for $16.2 \div \text{their} \frac{18}{6}$ oe	

5	(a)	C = 53 soi Y = 30 soi Triangles contain same angles oe	1 1 1Dep	May be on diagram May be on diagram Dependent on 1 previous mark scored	Ignore extra statements
	(b)	7.45 to 7.5	3	<p><b>M2</b> for <math>\frac{6}{8} \times 10</math> oe</p> <p>Or <b>M1</b> for <math>\frac{6}{8}</math> or <math>\frac{8}{6}</math> oe seen</p> <p>OR</p> <p><b>M2</b> for <math>\frac{6 \times \sin 97}{\sin 53}</math></p> <p>Or <b>M1</b> for <math>\frac{x}{\sin 97} = \frac{6}{\sin 53}</math> oe</p>	Condone 1.3[3...] for $\frac{8}{6}$

6	(a)	(	$\frac{5}{2}$ , $2\frac{1}{2}$ or 2.5	1			
		(ii)	Any correct shape	1	eg regular octagon, square, semicircle, sphere etc	Not just 'octagon'	
		(iii)*	Correct proof well explained.  (A) and (B) = 90° or (AD) parallel ( BC) stated These could be marked on diagram (ie 'boxes' or numbers, arrows).	3-2	Angles between tangent and radii = 90° Therefore AD parallel to BC Therefore it is a trapezium  For lower mark there will be any or all of <ul style="list-style-type: none"> <li>• small use of poor mathematical language</li> <li>• conclusion unclear</li> <li>• both facts given in working/answer but no reason. Labels not necessary provided not contradictory</li> </ul>	1-0	For lower mark – nothing of any worth.
	(b)	(i)*	Correct proof well explained.  Any mention of ratio, division, factor, enlargement etc.	3-2	Eg $12/8 = 1.5$ $9/5 = 1.8$ or 9cm should be 7.5cm So triangles not similar  For lower mark there will be any or all of <ul style="list-style-type: none"> <li>• small use of poor mathematical language</li> <li>• conclusion unclear</li> <li>• a reasonable argument but without any calculation/use of ratios or scale factors</li> <li>• one ratio may be incorrect</li> </ul>	1-0	For lower mark – nothing of any worth.

	(ii)	Change either 9 to 7.5 oe or 12 to $14\frac{2}{5}$ oe or 5 to 6 or 8 to $6\frac{2}{3}$ oe	3	<b>M2</b> for an appropriate ratio $\times$ appropriate length  Or <b>M1</b> for an appropriate ratio calculated  Condone 6.66 – 6.67	eg $\frac{8}{5} \times 9$  eg $\frac{8}{5}$  Calculations may be in (b)(i)
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7	(a)	17.1	3	<b>M2</b> for $\frac{19.5}{6.5} \times 5.7$  Or <b>M1</b> for $\frac{19.5}{6.5}$ soi by 3	
	(b)	52	1		
	(c)	459 nfw	2	For 2 marks condone answer in range 452 to 460 nfw <b>M1</b> for $51 \times (\text{their } 3)^2$	If using $A = \pi r^2$ must be full and complete method to score <b>M1</b>