

Question	Working	Answer	Mark	Notes
6 (a)			3	B3 fully correct B2 for 6 or 7 correct entries B1 for 3, 4 or 5 correct entries  Allow 4,3 and 11 instead of $11-x$ , $x-4$ , $18-x$ .
(b)	$11-x + x - 4 + 18 - x + 3 + 4 + 2 + 3 + 5 = 35$			M1 Sum of all their 8 values = 35 or “their 3” + “their 4”
(c)(i) (ii)		7	2	A1
		19	2	B1ft
		10	2	B1 ft
(d)		$\frac{5}{14}, \frac{3}{9}, \frac{1}{5}$	2	B2 for all of $\frac{5}{14}, \frac{3}{9}, \frac{1}{5}$ B1 for 1 correct
(e)	$\frac{9}{14} \times \frac{6}{9} + \frac{5}{14} \times \frac{4}{5}$ oe			M1 Correct method using their prob from tree diagram DO Not ISW
		$\frac{5}{7}$	2	A1 oe allow 0.71 or better

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7 (a)		The angle between a <u>radius</u> and a <u>tangent</u> is <u>90°</u>	1	B1 Oe
(b)	e.g. $\tan 27^\circ = \frac{OC}{12}$ or $\tan 63^\circ = \frac{12}{OC}$ $OC = 12 \tan 27^\circ$ or $OC = \frac{12}{\tan 63^\circ} (=6.11..)$ $0.5 \times 12 \times 12 \tan 27^\circ$ oe	36.7 cm <sup>2</sup>	4	M1 for correct use of trig M1 correct equation for $OC$ M1 A1 awrt 36.7 /36.8
(c)	$AOC = 126^\circ$ or $DOC$ and $DOA$ both marked or stated as $63^\circ$  for <u>angles</u> in a <u>triangle</u> total $180^\circ$ , $EOC = AOE$ as $AO = CO$ , $EA = EC$ and $EO$ is a common side and <u>angle at centre</u> is twice <u>angle at circumference</u> . oe	63°	4	M1 $0.5 \times 126$ A1 B2 (B1 for one correct reason)
(d)	$180 - "63"$ or $0.5 \times (360 - 2 \times "63")$	117°	2	M1 $180 -$ their (c) A1
(e)	$OCB = 90 - 59$ (31) $OAC = (180 - 2 \times "63") \div 2$ $BAO = "63" - 31$	$\begin{array}{l} reflex \ AOC = \\ 360 - 2 \times "63" \\ (=234) \end{array}$ $OCB = 90 - 59$ (=31) $BAO = 59 - "27"$	32°	Correct reasons for their method M1 1 of the angles. May be on diagram M1
			3	A1