

Q1. (2020)

Q	Answer	Mark	Comments
20	$180 - \frac{360}{10}$ or $180 - 36$ or $1440 \div 10$ or 144	M1	oe eg $(10 - 2) \times 180 \div 10$ may be seen on diagram
	$\frac{540 - 3 \times \text{their } 144}{2}$ or $\frac{540 - 432}{2}$ or $\frac{108}{2}$ or $360 - 90 - \text{their } 144 - \frac{\text{their } 144}{2}$ or their 144 - 90	M1dep	oe eg $\frac{(5 - 2) \times 180 - 3 \times \text{their } 144}{2}$
	54	A1	
	Additional Guidance		
	$540 \div 10 = 54$		M0M0A0
	144 worked out but not used		M1M0A0

Q2. (2022)

Q	Answer	Mark	Comments
28	interior angle = 150 or exterior angle = 30 or angle $BCN = 120$	B1	method not required may be seen on diagram
	interior angle = 150 with a valid method shown or exterior angle = 30 with a valid method shown or angle $BCN = 120$ with a valid method shown	B1dep	angles may be seen on diagram but methods will be in working lines eg $180 - \frac{360}{12} = 150$ or $\frac{1800}{12} = 150$ or $360 - 120 - 90 = 150$ or $\frac{360}{12} = 30$ or $\frac{180 - 120}{2} = 30$ or $180 - 150 = 30$ or $360 - 150 - 90 = 120$ or $360 - 240 = 120$ or $180 - 2 \times 30 = 120$
	interior angle = 150 with a valid method shown and exterior angle = 30 with a valid method shown and angle $BCN = 120$ with a valid method shown	B1dep	angles may be seen on diagram but methods will be in working lines eg $\frac{1800}{12} = 150$ and $\frac{180 - 120}{2} = 30$ and $360 - 240 = 120$ angles worked out in any order
	Fully correct working that must show correct progression and show all valid methods Valid methods shown must be appropriate for the approach used A reason must be included in the final step	B1dep	examples of the final step are (i) angle $ABC + \text{angle } CBN = 180$ (ii) interior angle = 150 in two different ways (iii) exterior angle = 30 in two different ways (iv) angle $BCN = 120$ in two different ways (v) sum of three angles at $C = 360$ (vi) sum of angles of triangle $BCN = 180$

Additional Guidance is on the next page

28 cont	Additional Guidance	
	Condone incorrect use of equals signs throughout eg interior angle = $12 - 2 = 10 \times 180 = 1800 \div 12 = 150$	B1B1
	interior angle may be seen as angle <i>ABC</i> or angle <i>BCD</i> exterior angle may be seen as angle <i>CBN</i>	
	It must be clear which angle they are working out eg1 Do not accept 150 if it is not correctly identified or not in the correct position on diagram eg2 Do accept 150 if it is identified as an interior angle or angle <i>ABC</i> or is in the correct position on the diagram	
	Do not accept incorrect statements eg1 exterior angle = 150 (even if 150 in correct position on the diagram) eg2 angle <i>ACB</i> = 150 (even if 150 in correct position on the diagram)	
	Ignore reasons for the first three marks	
	Angles on the diagram with no valid methods can score a maximum of B1B0B0B0	
	For the 2nd and 3rd marks the methods shown do not have to show progression	
	Example of fully correct working for (i) interior angle = $\frac{1800}{12} = 150$ angle <i>BCN</i> = $360 - 150 - 90 = 120$ angle <i>CBN</i> = $\frac{180 - 120}{2} = 30$ $150 + 30 = 180$ angles on a (straight) line	B1B1 B1 B1
	Example of fully correct working for (ii) exterior angle = $\frac{360}{12} = 30$ angle <i>BCN</i> = $180 - 2 \times 30 = 120$ interior angle = $360 - 120 - 90 = 150$ interior angle = $\frac{1800}{12} = 150$ (interior) angle of polygon	B1B1 B1 B1

Q3. (2023)

Q	Answer	Mark	Comments
6(a)	360 ÷ 8 or 135 seen	M1	oe eg $45 \times 8 = 360$ or $180 - \frac{(8-2) \times 180}{8}$ may be on diagram
	45	A1	
	Additional Guidance		
	M1 may be awarded for correct work with no answer or incorrect answer, even if this is seen amongst multiple attempts		
	45 seen but not chosen as answer, even if linked to the wrong angle		M1A0

Q4. (2023)

Q	Answer	Mark	Comments
6(b)	It is less than the answer to part (a)	B1	