

Interior And Exterior Angles Mark Scheme

1(a)	Exterior angles of an n -sided polygon $\frac{360^\circ}{n}$	[1] Exterior angle theorem
	$x = \frac{360^\circ}{5} = 72^\circ$	[1] Correct exterior angle of a regular pentagon
1(b)	Sum of interior angles in a polygon $(n - 2) \times 180^\circ$	[1] Interior angle theorem
	Pentagon interior angle $\frac{3 \times 180^\circ}{5} = 108^\circ$	[1] Correct interior angle of a regular pentagon
2	$\frac{360^\circ}{n} = 20^\circ$	[1] Use of exterior angles of an n -sided polygon $\frac{360^\circ}{n}$
	$n = \frac{360^\circ}{20^\circ} = 18$ side	[1] Correct number of sides
3	$6x = (6 - 2) \times 180^\circ = 720^\circ$	[1] Sum of interior angles in a polygon $(n - 2) \times 180^\circ$
	$x = 120^\circ$	[1] Correct interior angle of a regular hexagon
4	$x = 72^\circ + 60^\circ$	[1] Use of exterior angles of a regular hexagon and regular pentagon
	$= 132^\circ$	[1] Final answer
5	$(7 - 2) \times 180^\circ = 900^\circ$	[1] Sum of interior angles in a polygon $(n - 2) \times 180^\circ$
	$900^\circ - 755^\circ$	[1] Correct total interior angle – the sum of angles shown in the diagram excluding x
	$= 145^\circ$	[1] Final answer
6	$(6 - 2) \times 180^\circ = 720^\circ$	[1] Sum of interior angles in a polygon $(n - 2) \times 180^\circ$
	$720^\circ - 100 - 135 = 485$ $485^\circ = 4x + 3$	[1] Correct total interior angle – the sum of angles shown in the diagram excluding x
	$x = 120.5^\circ$	[1] Final answer

END