Properties of Polygons 20 minute test 1

Q	Answer	Mark	Comments
1	180 – 150	M1	
	30	A1	
2(a)	Octagon	B1	
2(b)	180 – 135	M1	
	45	A1	
3(a)	160 – 25	M1	Or finds remaining angle using angles on a straight line and then uses angles in a triangle.
	135	A1	
3(b)	Exterior angle of a triangle is equal to the sum of the remaining angles in the triangle. OR Angles on a straight line sum to 180 degrees **and** angles in a triangle sum to 180 degrees.	B1	Must have both reasons to be awarded this mark
4(a)	(360 – 37 – 156 – 43 = 124) 180 – 124	M1	oe
	56	A1	
4(b)	The sum of the angles in a quadrilateral is 360 degrees **and** angles on a straight line sum to 180 degrees	B1	Must have both reasons to be awarded this mark (can reference exterior angles instead of angles on a line…)

Q	Answer	Mark	Comments
5(a)	35	B1	
5(b)	Alternate angles are equal	B1	Do not accept Z angles
6	(360 – 130 – 10 = 220) 220 ÷ 2	M1	
	110	A1	
7	(180 – 140 = 40) 360 ÷ 40	M1	
	9	A1	
7 Alt Method	(n – 2) x 180 ÷ n = 140 180n – 360 = 140n 40n = 360	M1	Forms an equation (in n oe) and solves
	8	A1	
8	2x – 35 + x + 5 = 180 3x – 30 = 180 **OR** x + 50 + 4x – 220 = 180 5x – 170 = 180	M1	Uses supplementary angles sum to 180 degrees. Equation does not need to be simplified.
	3x = 210 **OR** 5x = 350	M1	Solves the equation.
	x = 70	A1	cao
8 Alt method	2x – 35 + x + 5 + x + 50 + 4x – 220 = 360 8x – 200 = 360	M1	Uses angles in a quadrilateral sum to 360 degrees. Equation does not need to be simplified.
	8x = 560	M1	Solves the equation.
	x = 70	A1	cao