Mark scheme

Angles

Mathematics 0580 · Questions from Paper 1, Paper 2, Paper 3 and Pape…

Total marks

31

MARKS FOR EACH QUESTION

1	2	3	4	5	6	7	8	9	10	Total
2	2	2	2	2	3	4	4	5	5	**31**

Question 1 **[2]**

1	**(a)**	138	**1**	
	(b)	Obtuse	**1**	

Question 2 **[2]**

2	116	**2**	**M1** for angle $ACB = 32$ soi

Question 3 **[2]**

3	171	**2**	**M1** for $180 - (360 \div 40)$ oe or $\frac{(40-2)\times 180}{40}$ oe

Question 4 **[2]**

4	51	**2**	**M1** for $360 - (56 + 104 + 71)$

Question 5 **[2]**

5	125	**2**	**M1** for 125 or 55 correctly placed on diagram

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Question 6 **[3]**

6	[x =] 70 and [y =] 65	**3**	**B2** for either correct or **B1** for 45 **and** 65 correctly placed on diagram or **M1** for 180 – 45 – 65 oe

Question 7 **[4]**

7(a)	reflex	**1**	
7(b)	Angles in a triangle add to 180,	**1**	accept angles in a triangle should add up to 180 angles in the/this/Lily's triangle do not add up to 180
7(c)	69	**2**	**M1** for 360 – (126 + 48 + 75) oe

Question 8 **[4]**

8	70	**4**	**B3** for $x = 11$ OR **M1** for $132 - 2x + 15 + 5x = 180$ oe **M1** for collecting x terms on one side and number terms on the other for *their* equation. **M1** for $15 + 5 \times$ *their* x oe where $-3 <$ *their* $x < 15$ or for $132 - 2 \times$ *their* x oe where $21 <$ *their* $x < 66$

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Question 9 **[5]**

9 (a)	Exterior angle method [Ext angle =] 360 ÷ 5 5 × (180 – 72) = 540	**M1** **E1dep**	
	Formula method $(n-2) \times 180$ or $\frac{(n-2)\times 180}{n}$ $(5-2) \times 180 = 540$ **or** $\frac{(5-2)\times 180}{5} = 108$ **and** 5 × 108 = 540	**M1** **E1dep**	
	Triangle methods Explanation or sketch to split pentagon into 3 or 5 triangles. 3 × 180 = 540 or 5 × 180 – 360 = 540	**M1** **E1dep**	
(b)	[x =] 104 [y =] 135	**3ft**	B1 [x =] 104 M1 for 540 – (90 + 76 + their x)

Question 10 **[5]**

10	Finds number of sides 6 and 12 with appropriate supporting working for each value.	**5**	**B2** for 120 and 150 or **M1** for 360 ÷ (3 + 4 + 5) × k oe where k = 1, 3, 4 or 5 **M1** for $\frac{360}{180-their120}$ or $\frac{180(n-2)}{n} = their120$ oe **M1** for $\frac{360}{180-their150}$ or $\frac{180(n-2)}{n} = their150$ oe

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