Circles / polygons / angles / parallel lines 1 Answers

1) **(a)** 66° | 2 | **M1** for 90° clearly identified as *A*

(b) 114° | 1ft | 180 − their **(a)**

(c) 33° | 1ft | $\dfrac{180 - \text{their (b)}}{2}$ or $\dfrac{\text{their (a)}}{2}$

2) 52 | 1 |

3) **(a)** Diameter | 1 |

(b) 27 | 3 | **M1** for (180 − 54) ÷ 2
M1 ind for 90 − their angle *OBD*.

4) **(a)** | 70 | 2 | **M1** for 180–140 or 40 at *A* oe

(b) | 108 | 2 | **M1** for 72 vertically opposite to given 72 or next to *q* or 108 next to 72 given

(c) | 54 | 1 |

(d) | 68 | 1 |

5) **(a)** | Triangle, Pentagon, Octagon | 1,1,1 | In correct position in the table

(b) (i) | (*x* =) 40 | 2 | **M1** for 360 ÷ 9 or complete long method

(ii) | 140 | 1ft | ft 180 − **(b)(i)**

6) 119 | 1 |

7) 109 | 1 |

8) 12 | 3 | **M1** for exterior angle 180 − 150 implied by 30 (could be on the diagram)
and M1 dep for 360 ÷ their 30

9) **(a)** 90° | 1 |

(b) 70° | 1 |

(c) 35° | 1ft | ft their **(b)** ÷ 2 only

10) **(a)** 90° | 1 |

(b) 72° | 1 |

(c) 90° | 1 |

(d) 36° | 1 | Ft 180 − (54 + their **(c)**)

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11)	**(a)** Trapezium	1	
	(b) $p = 32°$, alternate	1, 1	Accept Z angles
	$t = 99°$, exterior angle (of) triangle	1ft, 1	ft if $t = p + 67$ Accept angle of triangles and angles on straight line
	$w = 74°$, (base angle) isosceles triangle	1 , 1	Accept $\frac{1}{2}(180 - 32)$ with isosceles
12)	134	1	
13)	**(a)** ($x=$) 35	2	**B1** for angle $BDC = 90$ soi May be marked on the diagram
	(b) ($y=$) 55	1ft	ft 90 – their x
14)	**(a)** 90	1	
	(b) 45	1ft	ft $\frac{1}{2}$ (180 – their **(a)**)
	(c) 45	1ft	ft 90 – their **(b)**
15)	**(a)** 90° (Angle between) tangent and radius/ diameter	1 1 dep	
	(b) (i) 54° cao	1	
	(ii) $\frac{1}{2} \times (180 - 54)$ or $180 - 90 - {}^{1}/_{2}(180 - 126)$ or 54/2 followed by (180 – 90 – 27 oe)	2	**M1** for using isosceles triangle POR or **M1** for using isosceles triangle ROS then triangle PRS
	(c) (i) 90° cao	1	
	(ii) 27° cao	1	