

## Mathsbase Exam Questions: Circle Theorems

1) In triangle ABC, angle  $BCA = 40^\circ$ . If point D is on the circumference of the circle passing through points A, B, and C, find the measure of angle ADC. (2 marks)

Answer: \_\_\_\_\_

2) Given that angle  $ACD = 80^\circ$  and angle  $BAC = 30^\circ$ , determine the size of angle BCD in triangle BCD. (3 marks)

Answer: \_\_\_\_\_

3) In a circle with points A, B, C, and D on its circumference, angle  $ADB = 120^\circ$ . If angle  $BAC = 50^\circ$ , calculate the measurement of angle BDC. (4 marks)

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Answer: \_\_\_\_\_

4) Triangle ABC is inscribed in a circle, where angle  $CAB = 25^\circ$ . If angle  $DAB = 75^\circ$ , find the size of angle ACB. (2 marks)

Answer: \_\_\_\_\_

5) In a cyclic quadrilateral ABCD, angle  $ADB = 65^\circ$  and angle  $BCD = 75^\circ$ . Determine the measure of angle BAD. (3 marks)

Answer: \_\_\_\_\_

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6) Given that angle  $BCA = 60^\circ$  and angle  $ACD = 120^\circ$ , find the measure of angle  $CBD$  in triangle  $BCD$ . (4 marks)

Answer: \_\_\_\_\_

7) Triangle  $ABC$  is inscribed in a circle, where angle  $BAC = 70^\circ$ . If angle  $BDC = 45^\circ$ , calculate the measurement of angle  $ACB$ . (2 marks)

Answer: \_\_\_\_\_

8)  $A$ ,  $B$ ,  $C$ , and  $D$  are points on the circumference of a circle. If angle  $BAC = 80^\circ$  and angle  $ABD = 100^\circ$ , what is the measure of angle  $ACD$ ? (3 marks)

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Answer: \_\_\_\_\_

9) In a cyclic quadrilateral ABCD, angle CAB =  $70^\circ$  and angle ADB =  $110^\circ$ . Determine the size of angle BCD. (4 marks)

Answer: \_\_\_\_\_

10) Given that angle BCA =  $55^\circ$  and angle ACD =  $85^\circ$ , calculate the measurement of angle BDA in triangle BDA. (3 marks)

Mark Scheme:

1)  $20^\circ$

2)  $130^\circ$

3)  $40^\circ$

4)  $130^\circ$

5)  $70^\circ$

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6)  $60^\circ$

7)  $125^\circ$

8)  $60^\circ$

9)  $80^\circ$

10)  $40^\circ$

Answer: \_\_\_\_\_