CIRCLE THOREMS

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

1. Find the angle subtended at the centre of a circle by an arc of 60°.

2. Find the angle subtended at the circumference of a circle by an arc of 120°.

3. In a circle, angle AOB = 80° where O is the centre. Find angle APB where P is a point on the circumference.

4. In a circle, angle APB = 50° where P is a point on the circumference. Find angle AOB where O is the centre.

5. Find the angle in a semicircle.

6. In a circle, angle ABC = 70° where A, B, and C lie on the circumference. Find angle AOC where O is the centre.

7. In a circle, angle AOC = 160° where O is the centre. Find angle ABC where A, B, and C lie on the circumference.

8. In a circle, angle APB = 30° where P is a point on the circumference. Find angle AQB where Q is another point on the circumference.

9. In a circle, angle AOB = 90° where O is the centre. Find angle APB where P is a point on the circumference.

10. In a circle, angle APB = 110° where P is a point on the circumference. Find angle AOB where O is the centre.

11. In a circle, angle ABC = 45° where A, B, and C lie on the circumference. Find angle AOC where O is the centre.

12. In a circle, angle AOC = 200° where O is the centre. Find angle ABC where A, B, and C lie on the circumference.

13. In a circle, angle APB = 25° where P is a point on the circumference. Find angle AQB where Q is another point on the circumference.

14. In a circle, angle AOB = 72° where O is the centre. Find angle APB where P is a point on the circumference.

15. In a circle, angle APB = 130° where P is a point on the circumference. Find angle AOB where O is the centre.

16. In a circle, angle ABC = 55° where A, B, and C lie on the circumference. Find angle AOC where O is the centre.

17. In a circle, angle AOC = 240° where O is the centre. Find angle ABC where A, B, and C lie on the circumference.

18. In a circle, angle APB = 40° where P is a point on the circumference. Find angle AQB where Q is another point on the circumference.

19. In a circle, angle AOB = 108° where O is the centre. Find angle APB where P is a point on the circumference.

20. In a circle, angle APB = 150° where P is a point on the circumference. Find angle AOB where O is the centre.

MASTER QUESTIONS

M1. A circle has centre O. Points A, B, and C lie on the circumference. Angle ABC is 65°. Find angle AOC.

M2. A circle has centre O. Points A, B, and C lie on the circumference. Angle AOC is 150°. Find angle ABC.

M3. A circle has centre O. Points A, B, and P lie on the circumference. Angle APB is 35°. Find angle AOB.

M4. A circle has centre O. Points A, B, and P lie on the circumference. Angle AOB is 144°. Find angle APB.

M5. A circle has centre O. Points A, B, C, and D lie on the circumference. Angle ABC is 80° and angle BCD is 110°. Find angle AOC.