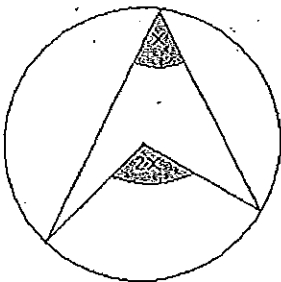
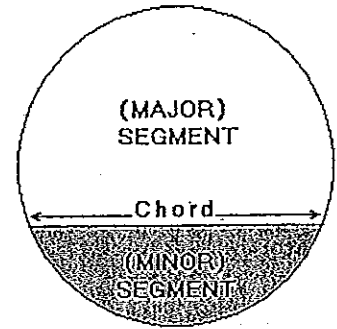
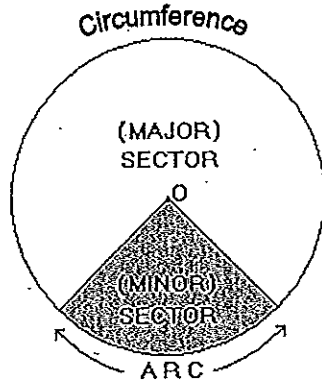
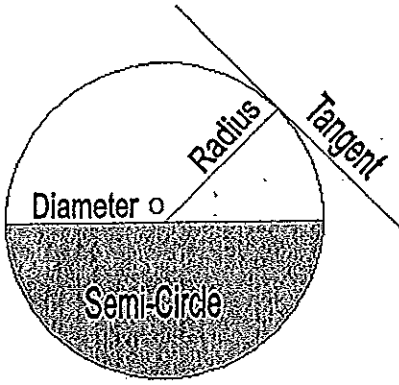
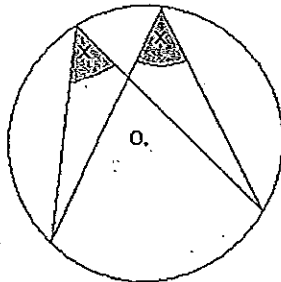


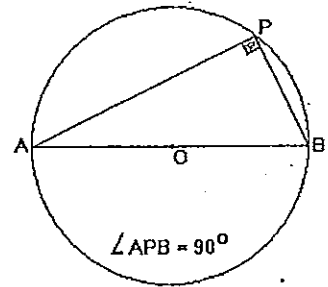
CIRCLE PROPERTIES



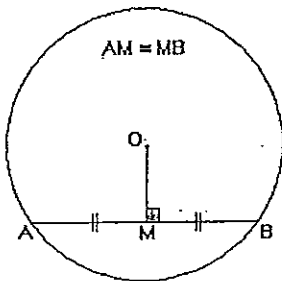
The angle at the centre is twice the angle at the circumference, when made from the same arc.



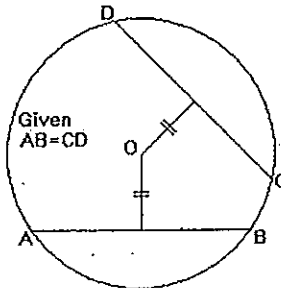
Angles at the circumference, made from the same arc, are equal.



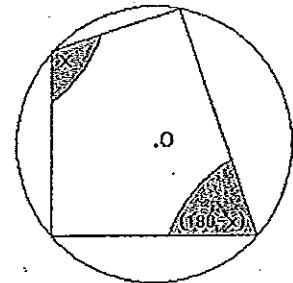
The angle in a semi-circle is a right-angle.



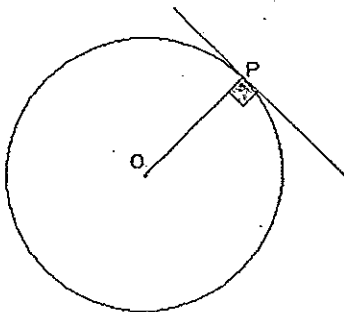
A line drawn from the centre to the mid-point of a chord, meets it at right-angles (90°)



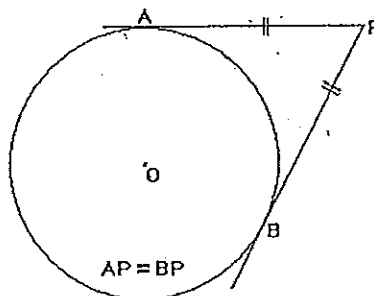
Chords of equal length are equidistant from the centre of the circle.



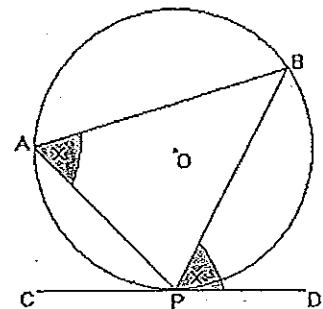
The opposite angles of a cyclic quadrilateral, are supplementary.



A Tangent meets a radius at its point of contact at right-angles.



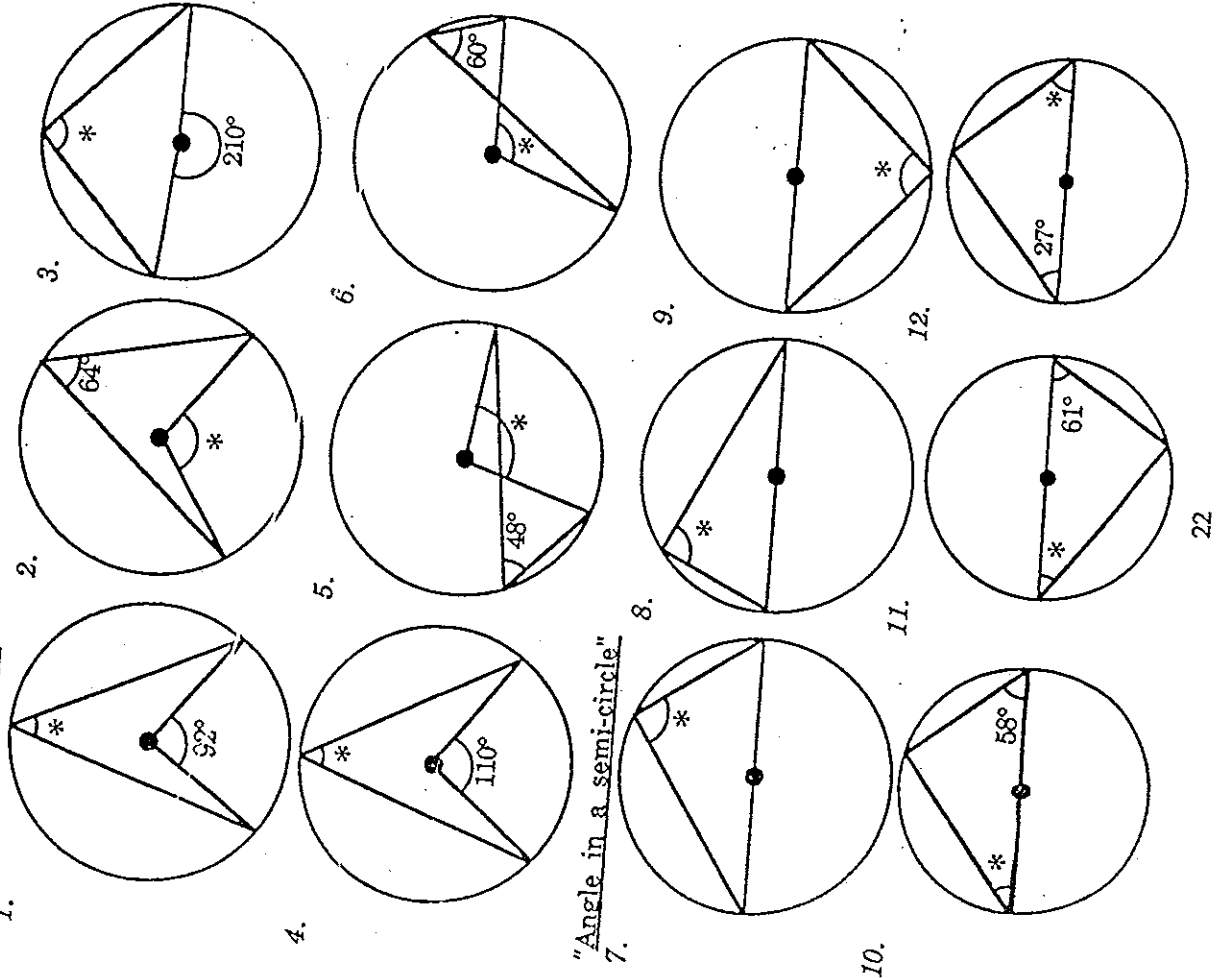
Two tangents drawn from an external point are equal in length.



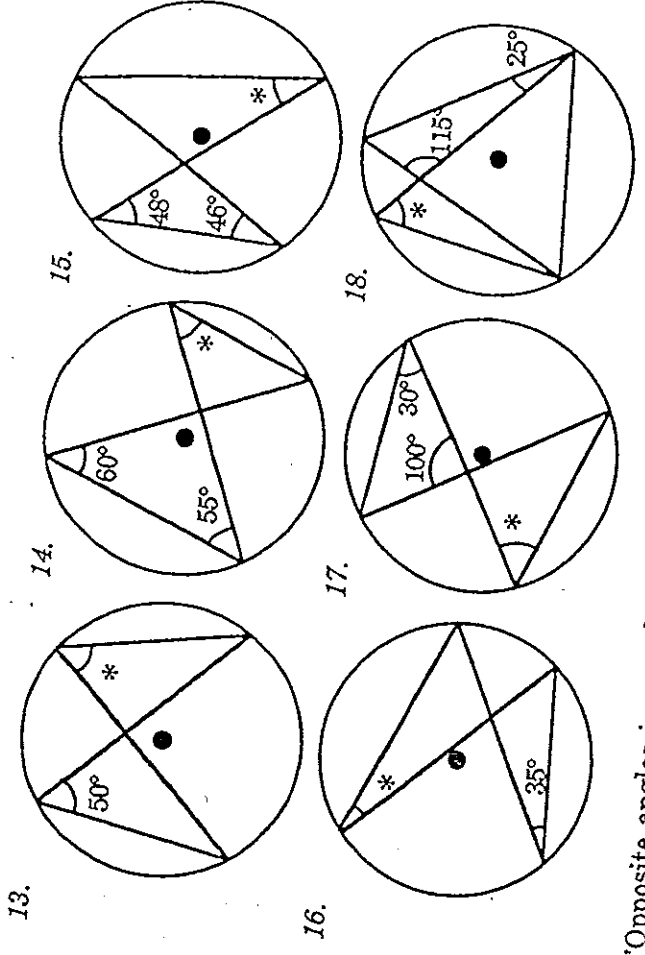
The angle between a chord and a tangent is equal to the angle in the alternate segment.

Calculate the size of each angle marked * in the following diagrams. Record your answers on file paper. (The diagrams shown below are not drawn accurately).

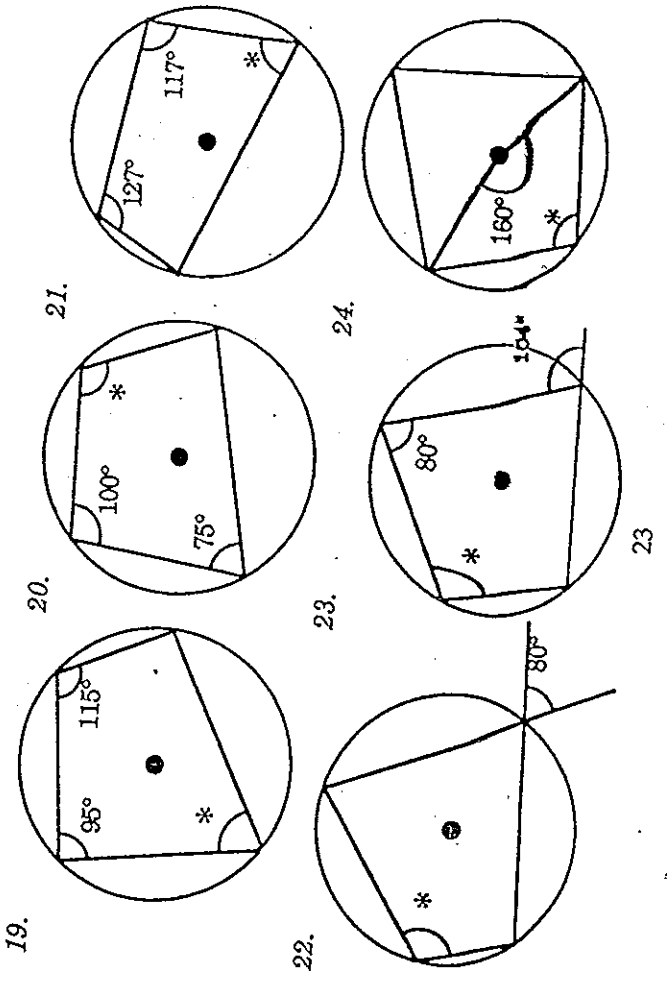
"Angle at the centre"



"Angles in the same segment"

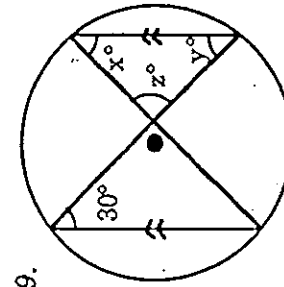
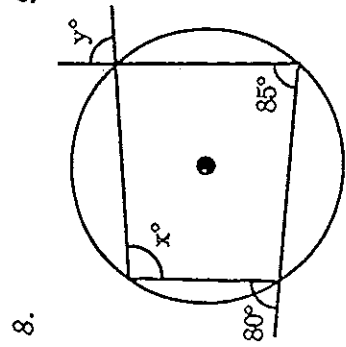
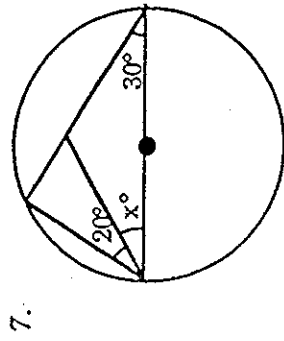
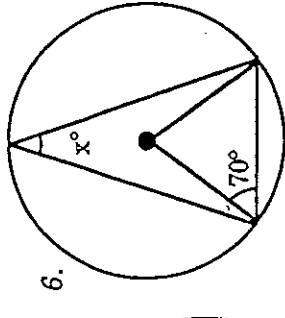
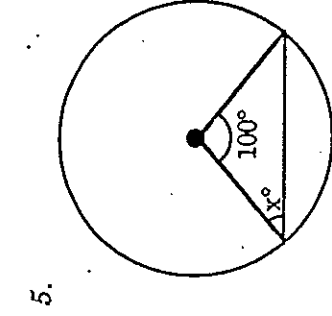
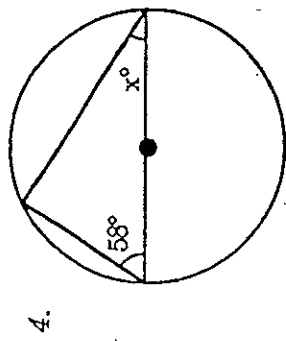
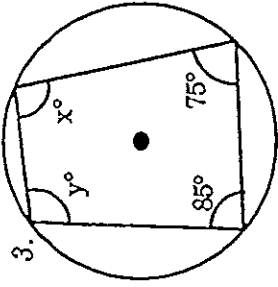
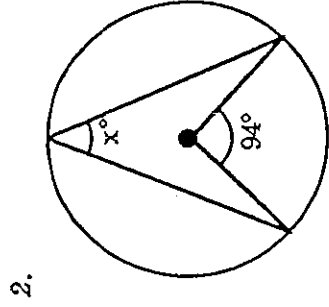
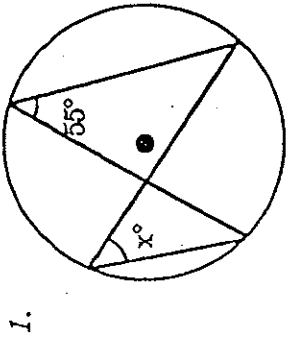


"Opposite angles in a cyclic quadrilateral"

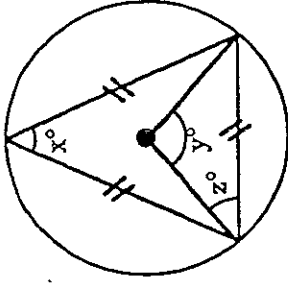


EXERCISE 3B

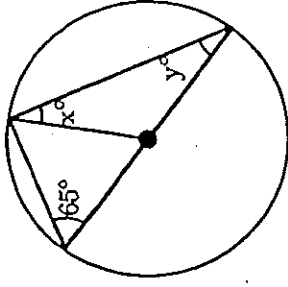
Find the values of the pronumerals in each of the following.



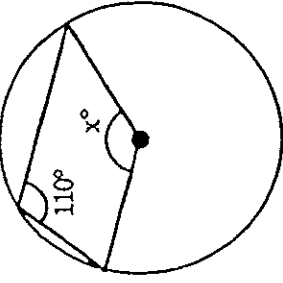
10.



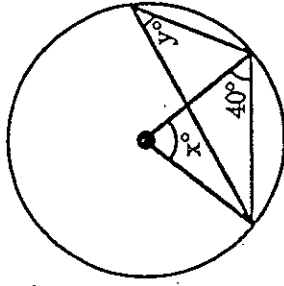
11.



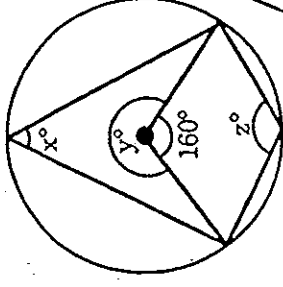
12.



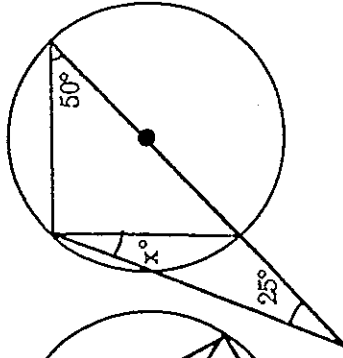
13.



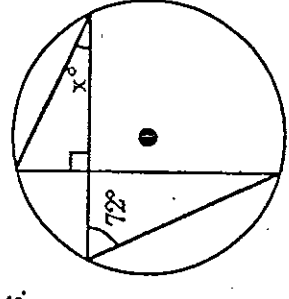
14.



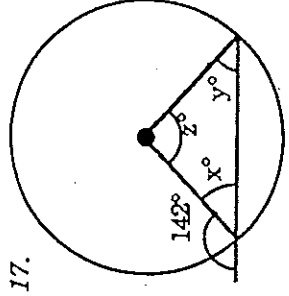
15.



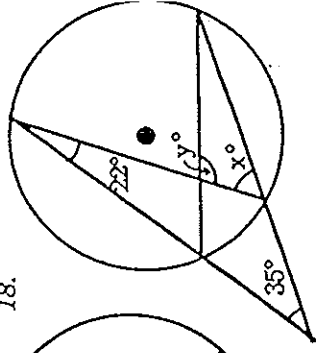
16.



17.



18.



EXERCISE 3A

- | | | | |
|---------|----------|----------|----------|
| 1. 46' | 2. 128' | 3. 105' | 4. 55' |
| 5. 96' | 6. 120' | 7. 90' | 8. 90' |
| 9. 90' | 10. 32' | 11. 29' | 12. 63' |
| 13. 50' | 14. 60' | 15. 46' | 16. 35' |
| 17. 50' | 18. 40' | 19. 65' | 20. 105' |
| 21. 53' | 22. 100' | 23. 104' | 24. 100' |

EXERCISE 3B

- | | | | |
|----------------------|------------------|-----------------|--------------------|
| 1. 55 | 2. 47 | 3. 95, 105 | 4. 32 |
| 5. 40 | 6. 20 | 7. 40 | 8. 95, 80 |
| 9. 30, 30, 120 | 10. 60, 120, 30 | 11. 25, 25 | 12. 140 |
| 13. 100, 50 | 14. 80, 200, 100 | 15. 15 | 16. 18 |
| 17. 38, 38, 104 | 18. 57, 101 | 19. 70, 20 | 20. 160 |
| 21. 120, 60, 30 | 22. 84, 42 | 23. 130 | 24. 136, 22 |
| 25. 80, 100, 100, 80 | 26. 65 | 27. 70, 70, 35 | 28. 210, 150 |
| 29. 50, 20 | 30. 100 | 31. 130, 50, 40 | 32. 80 |
| 33. 140 | 34. 45, 45, 65 | 35. 15 | 36. 60, 60, 40, 80 |

