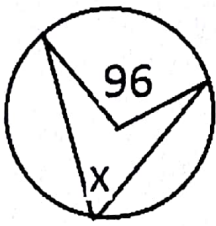


Arcs and Angles of Circles

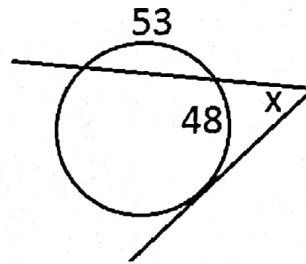
Solve for x .

1.



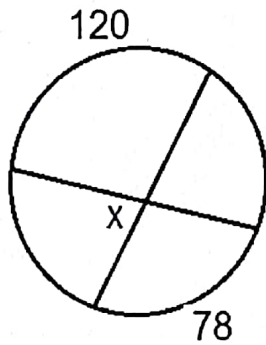
$x = 48^\circ$

2.



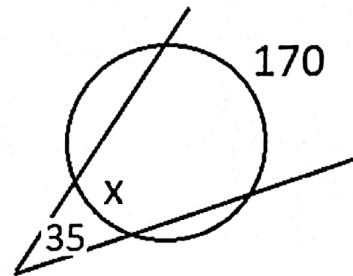
$x = 105.5^\circ$

3.



$x = 81^\circ$

4.

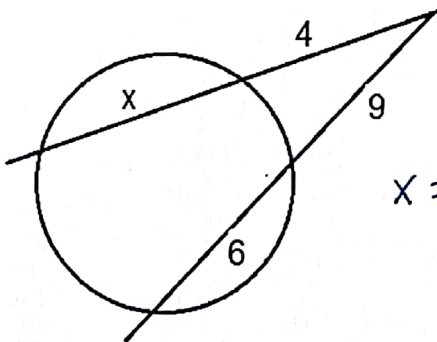


$x = 100^\circ$

Lengths with Circles

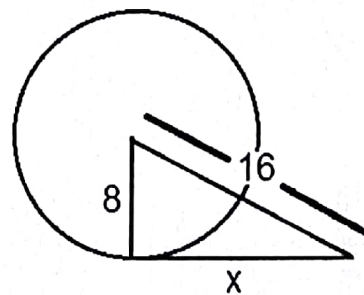
Solve for x .

5.



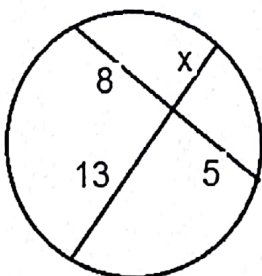
$x = 29.75$

6.



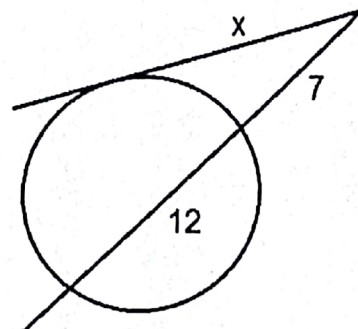
$x = 13.86$

7.



$x = 3.08$

8.



$x = 11.53$

Equation of a Circle

Determine the center and radius.

9. $(x+2)^2 + (y+5)^2 = 36$

$$(-2, -5) \quad r=6$$

10. $x^2 + (y-4)^2 = 300$

$$(0, 4) \quad r=10\sqrt{3}$$

11. $x^2 + y^2 + 14x - 4y + 44 = 0$

$$(-7, 2) \quad r=3$$

12. $x^2 + y^2 + 4y - 45 = 0$

$$(0, -2) \quad r=7$$

13. $x^2 + y^2 - 6x - 8y + 24 = 0$

$$(3, 4) \quad r=1$$

14. $x^2 + y^2 - 4x + 10y - 52 = 0$

$$(2, -5) \quad r=9$$

Arc Length and Area of a Sector

15. central angle = 65° , radius = 12 ft
Find area of sector.

$$A_s = 81.68 \text{ ft}^2$$

16. central angle = 250° , radius = 6 m
Find arc length.

$$s = 26.18 \text{ m}$$

17. arc length = 10π in, radius = 18 in
Find central angle.

$$\theta = 100^\circ$$

18. area of sector = $3\pi \text{ km}^2$, central angle = 30°
Find radius.

$$r = 6 \text{ km}$$