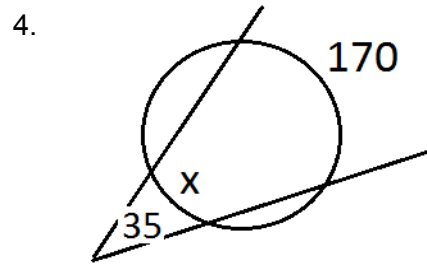
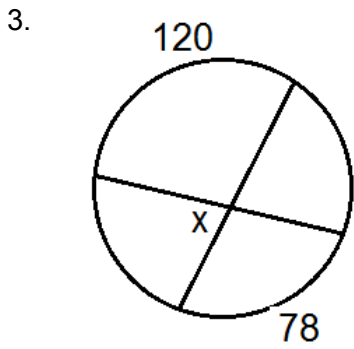
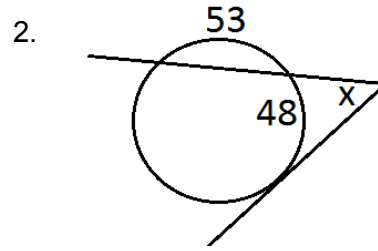
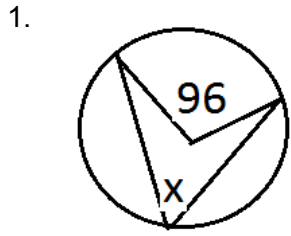


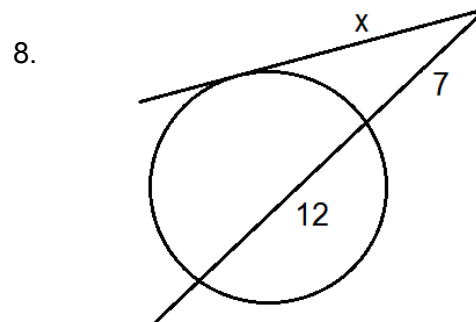
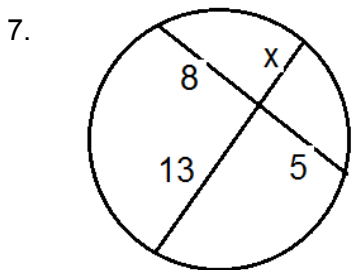
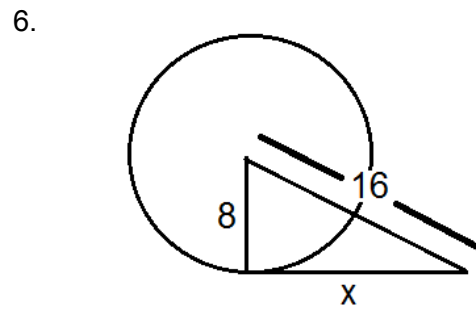
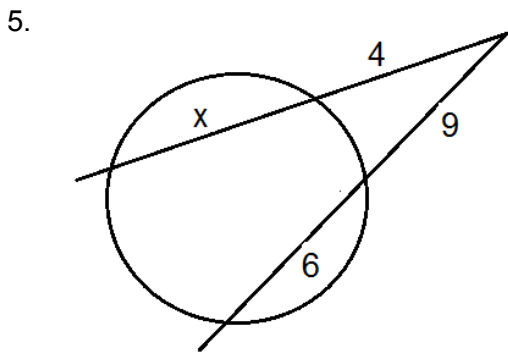
**Arcs and Angles of Circles**

Solve for  $x$ .



**Lengths with Circles**

Solve for  $x$ .



### **Equation of a Circle**

*Determine the center and radius.*

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

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

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

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

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

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

### **Arc Length and Area of a Sector**

15. central angle =  $65^\circ$ , radius = 12 ft  
Find area of sector.

16. central angle =  $250^\circ$ , radius = 6 m  
Find arc length.

17. arc length =  $10\pi$  in, radius = 18 in  
Find central angle.

18. area of sector =  $3\pi$  km<sup>2</sup>, central angle =  $30^\circ$   
Find radius.