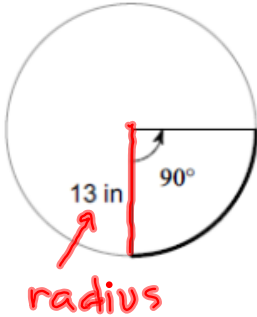


12.3 Arc Length, Sector Area, Tangent and Chord Theorems

Find the length of each arc. Write your answers in terms of π and as decimals rounded to the nearest hundredth.

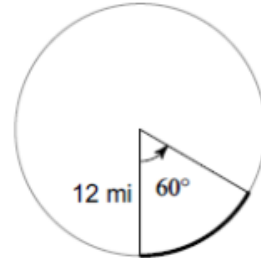
$$L = \frac{\text{angle}}{360} \times 2 \times \text{radius} \times \pi$$

1)

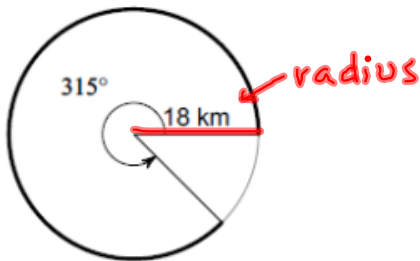


$$\frac{90}{360} \times 2 \times 13 \times \pi$$

2)

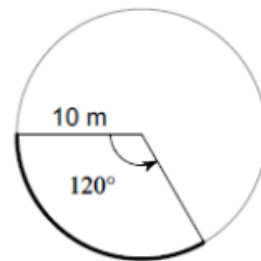


3)

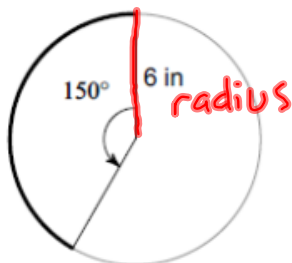


$$\frac{315}{360} \times 2 \times 18 \times \pi$$

4)

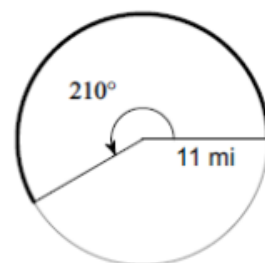


5)



$$\frac{150}{360} \times 2 \times 6 \times \pi$$

6)

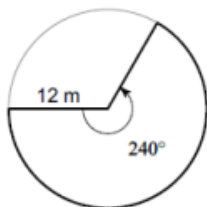


Find the area of each sector. Write your answers in terms of π and as decimals rounded to the nearest hundredth.

Formula

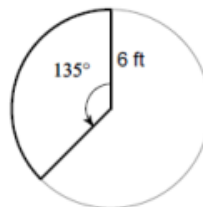
$$A = \frac{\text{angle}}{360} \times \text{radius}^2 \times \pi$$

7)

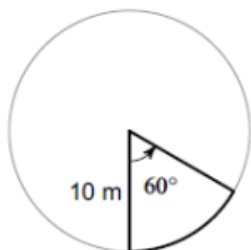


$$\frac{240}{360} \times 12^2 \times \pi$$

8)

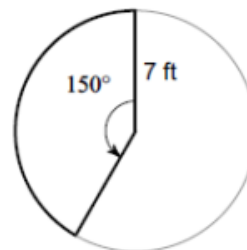


9)

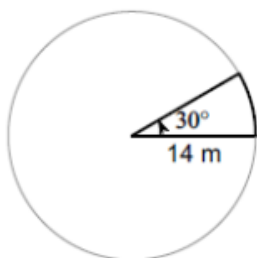


$$\frac{60}{360} \times 10^2 \times \pi$$

10)

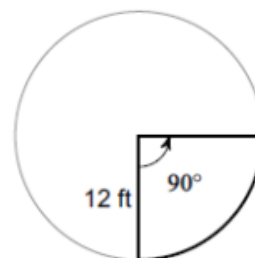


11)



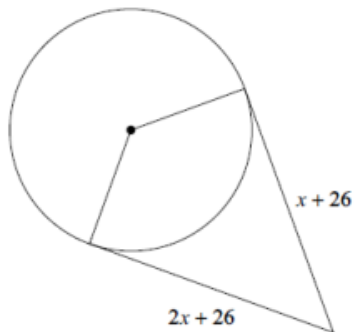
$$\frac{30}{360} \times 14^2 \times \pi$$

12)



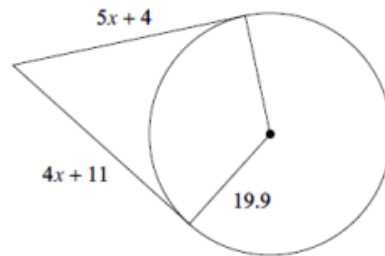
Solve for x . Assume that segments which appear to be tangent to the circle are tangent to the circle.

13)

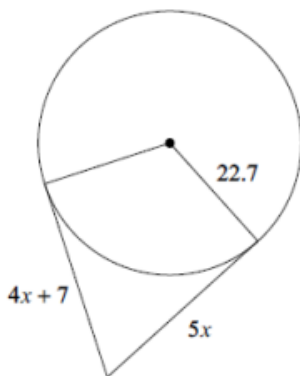


$$2x + 26 = x + 26$$

14)

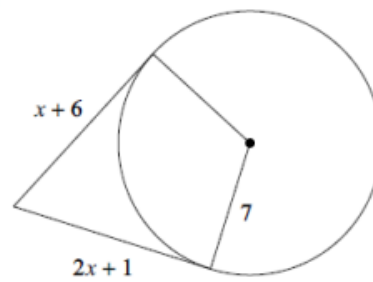


15)

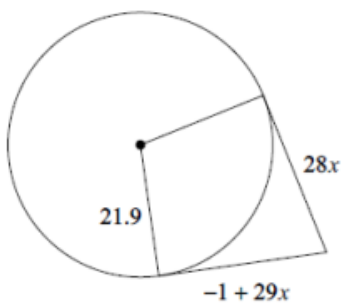


$$5x = 4x + 7$$

16)

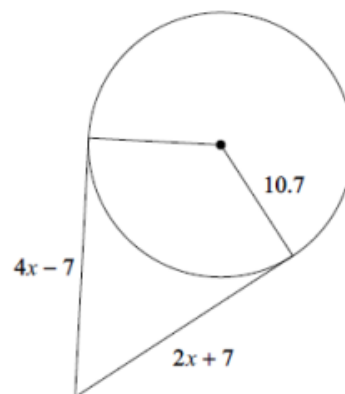


17)



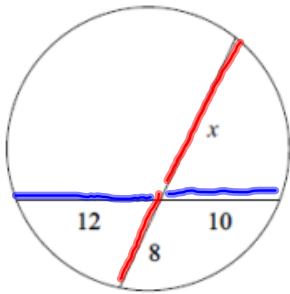
$$-1 + 29x = 28x$$

18)



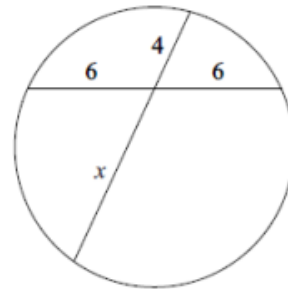
Solve for x .

19)

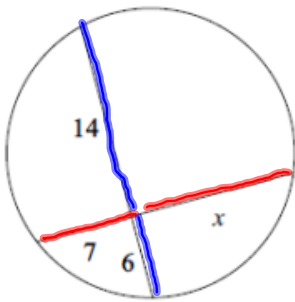


$$8x = 12(10)$$

20)

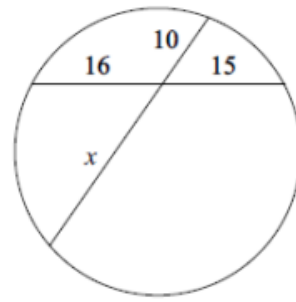


21)

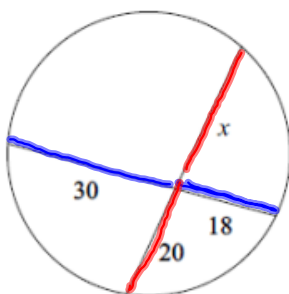


$$7x = 14(6)$$

22)



23)



$$20x = 30(18)$$

24)

