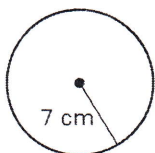


31.1 - Practice Circumference and Arc Length

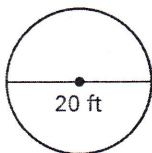
Use the diagram to find the indicated measure.

1. Find the circumference. 2. Find the circumference. 3. Find the radius.



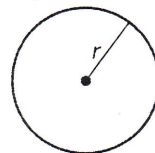
$$C = 2\pi(7)$$

$$C = 43.98 \text{ cm}$$



$$C = \pi(20)$$

$$C = 62.83 \text{ ft}$$



$C = 48 \text{ in.}$

$$48 = 2\pi r$$

$$\frac{48}{2\pi} = r$$

$$r = 7.64 \text{ inches}$$

Find the indicated measure.

4. The exact radius of a circle with circumference 36 meters

$$36 = 2\pi r$$

$$\frac{36}{2\pi} = r$$

$$r = \frac{18}{\pi} \text{ meters}$$

5. The exact diameter of a circle with circumference 29 feet

$$29 = \pi d$$

$$\frac{29}{\pi} = d$$

6. The exact circumference of a circle with diameter 26 inches

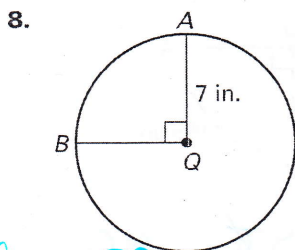
$$C = \pi(26) = 26\pi \text{ inches}$$

7. The exact circumference of a circle with radius 15 centimeters

$$C = 2\pi(15)$$

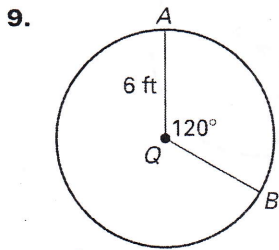
$$C = 30\pi \text{ cm}$$

Find the length of \widehat{AB} .



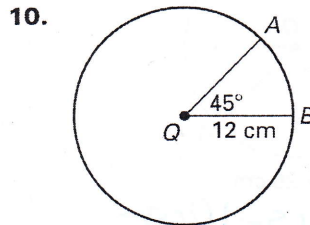
$$\frac{l}{2\pi(7)} = \frac{90}{360}$$

$$l = 11.0 \text{ in}$$



$$\frac{l}{2\pi(6)} = \frac{120}{360}$$

$$l = 12.57 \text{ ft}$$

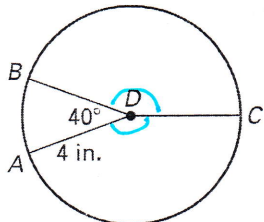


$$\frac{l}{2\pi(12)} = \frac{45}{360}$$

$$l = 9.42 \text{ cm}$$

30.1 Practice *continued*

In $\odot D$ shown below, $\angle ADC \cong \angle BDC$. Find the indicated measure.



11. $m\widehat{ACB} = \boxed{320^\circ}$

12. $m\widehat{CB} = \frac{320}{2} = \boxed{160^\circ}$

13. Length of $\widehat{ACB} = \frac{l}{2\pi(4)} = \frac{320}{360}$

$l = \boxed{22.34 \text{ in}}$

14. Length of $\widehat{CB} = \frac{l}{2\pi(4)} = \frac{160}{360}$

$l = \boxed{11.17 \text{ in}}$

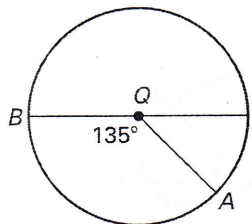
15. $m\widehat{ABC} = \boxed{200^\circ}$

16. Length of $\widehat{BAC} = \frac{l}{2\pi(4)} = \frac{200}{360}$

$l = \boxed{13.96 \text{ in}}$

Find the indicated measure.

17. Length of \widehat{AB}



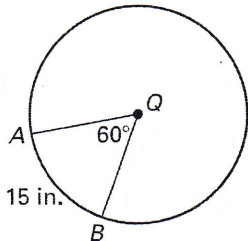
$d = 20 \text{ cm}$

radius = 10 cm

$\frac{l}{2\pi(10)} = \frac{135}{360}$

$l = \boxed{23.56 \text{ cm}}$

18. Circumference of $\odot Q$

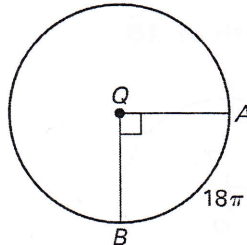


15 in.

$\frac{15}{r} = \frac{60}{360}$

$C = \boxed{90 \text{ in}}$

19. Radius of $\odot Q$



18\pi in.

$\frac{18\pi}{2\pi r} = \frac{90}{360}$

$\frac{9}{r} = \frac{90}{360}$

$r = \boxed{36 \text{ in}}$