

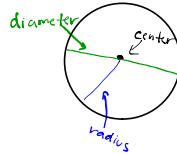
Lesson 8.1a Circles and Circumference

8.1a Circles and Circumference

Circle - a set of all points in a plane that are the same distance from the center

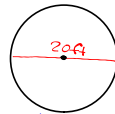
radius - the distance from the center to any point on the circle.
 $r = \frac{d}{2}$

diameter - the distance across the circle through the center
 $d = 2r$



Ex. 1

a) Find the radius b) Find the diameter

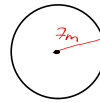


$$d = 20 \text{ ft}$$

$$r = \frac{d}{2}$$

$$r = \frac{20 \text{ ft}}{2}$$

$$r = 10 \text{ ft}$$



$$r = 7 \text{ m}$$

$$d = 2r$$

$$d = 2(7 \text{ m})$$

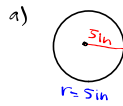
$$d = 14 \text{ m}$$

circumference - the distance around the circle

$$C = \pi \cdot d \quad \text{or} \quad C = 2\pi r$$

$$\pi = 3.14 \quad \text{or} \quad \frac{22}{7}$$

Ex. 2 Find circumference



$$r = 5 \text{ in}$$

$$C = 2\pi r$$

$$C = 2(3.14)(5 \text{ in})$$

$$C = 10 \text{ in}(3.14)$$

$$C = 31.4 \text{ in}$$

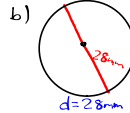
or

$$C = \frac{22}{7}(5 \text{ in})$$

$$C = \frac{22 \cdot 10}{7}$$

$$C = \frac{220}{7}$$

$$C = 31.43 \text{ in}$$



$$d = 28 \text{ mm}$$

$$C = \pi d$$

$$C = (3.14)(28 \text{ mm})$$

$$C = 87.92 \text{ mm}$$

$$C = \frac{22}{7}(28 \text{ mm})$$

$$C = \frac{22 \cdot 28}{1}$$

$$C = 88 \text{ mm}$$

Ex. 3 Find perimeter



$$d = 6 \text{ m}$$

$$P = \frac{\pi d}{2} + d$$

$$P = \frac{3.14(6 \text{ m})}{2} + 6 \text{ m}$$

$$P = 9.42 \text{ m} + 6 \text{ m}$$

$$P = 15.42 \text{ m}$$

Ex. 4 Find circumference



$$d = 14 \text{ ft}$$

$$C = \pi d$$

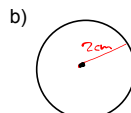
$$C = 3.14(14 \text{ ft})$$

$$C = 43.96 \text{ ft}$$

$$C = \frac{22}{7}(14 \text{ ft})$$

$$C = \frac{22 \cdot 14}{1}$$

$$C = 44 \text{ ft}$$



$$r = 2 \text{ cm} \quad d = 4 \text{ cm}$$

$$C = 2\pi r$$

$$C = 2(3.14)(2 \text{ cm})$$

$$C = 4 \text{ cm}(3.14)$$

$$C = 12.56 \text{ cm}$$