

Vocabulary

Diameter:

from edge to edge
through the center.

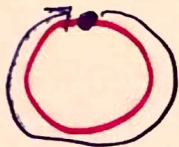
Radius:

outside to the center

use π for "pi" button

Circumference of a Circle:

$$\pi = 3.14159\dots$$



The distance around a circle

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

Area of a Circle:

$$A = \pi \cdot r^2$$



how much space is
inside the circle.

Semicircle:

Half

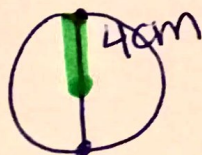


Half the circumference.
the area.

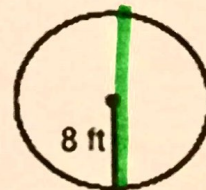
Ex. 1: Find the radius or diameter of each circle with the given dimensions.

a. $d = 4\text{cm}$

$r = 2\text{cm}$



b.

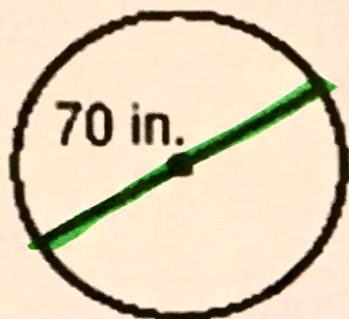


$r = 8\text{ ft}$

$d = 16\text{ ft}$

Ex. 2: Find the **circumference** of the circle. Give your answer both in terms of π AND as a decimal rounded to the tenths place.

a.



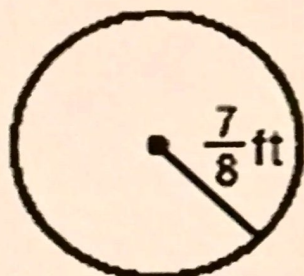
$$C = 2 \cdot \pi \cdot r \quad \text{or} \quad \boxed{\pi \cdot d}$$

$$\pi \cdot 70 = \boxed{70\pi}$$

$$70 \cdot 3.14$$

$$\boxed{C = 219.8 \text{ in.}}$$

b.



$$r = 7/8$$

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

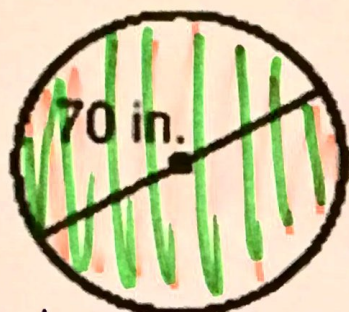
$$\frac{2}{1} \cdot \pi \cdot \frac{7}{8} \quad \frac{14}{8} \cdot \pi = \boxed{\frac{7}{4}\pi}$$

$$\boxed{5.495}$$

$$\boxed{C = 5.5 \text{ ft}}$$

Ex. 3: Find the **area** of the circle. Give your answer both in terms of π AND as a decimal rounded to the tenths place.

a.



$$d = 70$$

$$r = 35$$

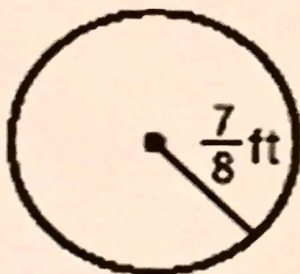
$$A = \pi \cdot r^2$$

$$A = \pi \cdot (35)^2$$

$$\pi \cdot 1225$$

$$A = 3846.5 \text{ in}^2$$

b.



$$A = \pi \cdot r^2$$

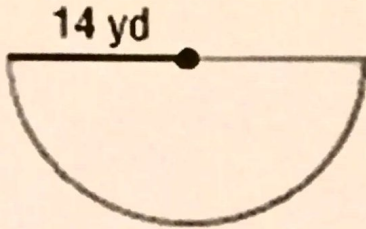
$$\pi \cdot \left(\frac{7}{8}\right)^2$$

$$2.404$$

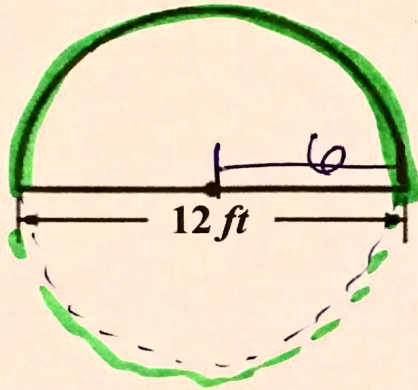
$$A = 2.4 \text{ ft}^2$$

Ex. 4: Find the perimeter and area of the semicircle.

a.



b.



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

$$37.68 \div 2 = 18.84$$

~~$$C = 2\pi r$$~~

$$C = 18.8 \text{ ft}$$

$$A = \pi \cdot r^2 = \pi \cdot (6)^2 = 36 \cdot \pi$$

$$\div 2$$

$$56.572 \quad 56.5 \text{ ft}^2$$

Ex. 5: Big Ben is a famous clock tower in London, England. The diameter of the clock face is 23 feet. Find the circumference of the clock face. Round to the nearest tenth.

