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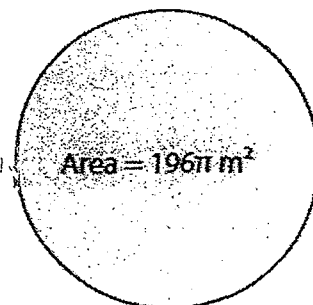
CIRCLES & AREA

PERIOD: _____

**How Do You Find Circumference
When Given the Area of a Circle? Vice Versa?**
(Topic #6)

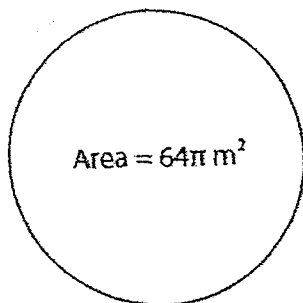
EXAMPLE 1: Using Area to Find the Circumference

Find the circumference of the circle. Round to the *nearest tenth*.

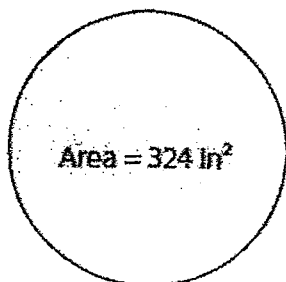


PRCATICE: Find the circumference for each circle below. Round to the *nearest tenth*.
Show all work.

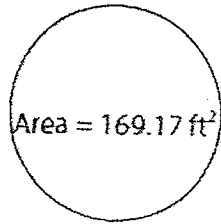
1.



2.



3.



EXAMPLE 2: Using Circumference to Find the Area

A circle has a circumference of 12π cm. Find the area of the circle. Round to the nearest tenth.

PRACTICE: Read each question below. Find the area of the circle. Round to the nearest tenth. Show all work.

4. A wire of length 28π meters is bent to form a circle.

5. A circular table has a circumference of 24.93 ft.

6. A thread of length 52.31 cm is bent to form a circle.

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CIRCLES & AREA

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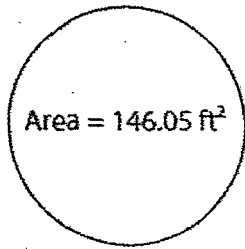
HOMEWORK - (Topic #6)

Finding the Radius or Diameter When Given the Area of a Circle

Find the area or circumference of the following circles. Round your answer to the *nearest tenth*. Show all work.

1. A clock face has a circumference of 39.88 cm. What is the area of the clock?

2. Find the circumference of the following circle.



3. The area of a circular floor carpet is 1,243.47 cm². Find the circumference of the floor carpet.

How Do You Find Circumference When Given the Area of a Circle? Vice Versa? (Topic #6)

EXAMPLE 1: Using Area to Find the Circumference

Find the circumference of the circle. Round to the *nearest tenth*.

$$C = \underline{\hspace{2cm}}$$

$$A = 196\pi \text{ cm}^2$$

$$\textcircled{1} \quad A = \pi r^2$$

$$\frac{196\pi}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{196} = \sqrt{r^2}$$

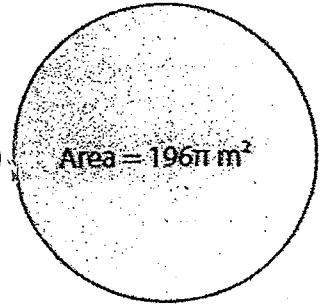
$$14 = r$$

$$\textcircled{2} \quad C = 2\pi r$$

$$C = 2\pi(14)$$

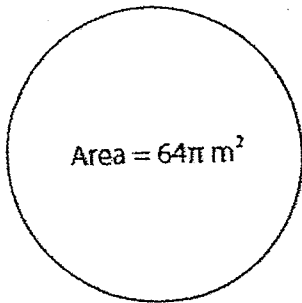
$$C \approx 88.0$$

cm



PRCATICICE: Find the circumference for each circle below. Round to the *nearest tenth*.
Show all work.

1.



$$C = \underline{\hspace{2cm}}$$

$$A = 64\pi \text{ m}^2$$

$$\textcircled{1} \quad A = \pi r^2$$

$$\frac{64\pi}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{64} = \sqrt{r^2}$$

$$8 = r$$

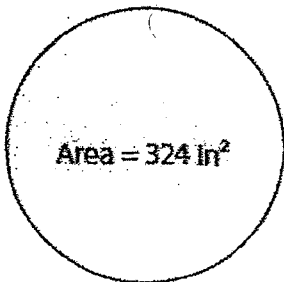
$$\textcircled{2} \quad C = 2\pi r$$

$$C = 2\pi(8)$$

$$C \approx 50.3$$

m

2.



$$C = \underline{\hspace{2cm}}$$

$$A = 324 \text{ in}^2$$

$$\textcircled{1} \quad A = \pi r^2$$

$$\frac{324}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{103.1324031} = \sqrt{r^2}$$

$$10.2 = r$$

$$\textcircled{2} \quad C = 2\pi r$$

$$C = 2\pi(10.2)$$

$$C = 64.1 \text{ in}$$

3.

Area = 169.17 ft²

① $A = \pi r^2$

$$\frac{169.17}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{53.84848345} = \sqrt{r^2}$$

$C = \underline{\hspace{2cm}}$

$7.3 = r$

$A = 169.17$

② $C = 2\pi r$

$C = 2\pi(7.3)$

$C = 45.9 \text{ ft}$

EXAMPLE 2: Using Circumference to Find the Area

A circle has a circumference of 12π cm. Find the area of the circle. Round to the nearest tenth.

$A = \underline{\hspace{2cm}}$

$C = 12\pi$

① $C = \pi d$

$$\frac{12\pi}{\pi} = \frac{\pi d}{\pi}$$

$12 = d$

$6 = r$

② $A = \pi r^2$

$A = \pi(6)^2$

$A = 113.1 \text{ cm}^2$

PRACTICE: Read each question below. Find the area of the circle. Round to the nearest tenth. Show all work.

4. A wire of length 28π meters is bent to form a circle.

$A = \underline{\hspace{2cm}}$

$C = 28\pi$

① $C = \pi d$

$$\frac{28\pi}{\pi} = \frac{\pi d}{\pi}$$

$28 = d$

$14 = r$

② $A = \pi r^2$

$A = \pi(14)^2$

$A \approx 615.8 \text{ m}^2$

5. A circular table has a circumference of 24.93 ft.

$$A = \underline{\hspace{2cm}}$$

$$C = 24.93 \text{ ft}$$

$$\textcircled{1} \quad C = \pi d$$

$$\frac{24.93}{\pi} = \frac{\pi d}{\pi}$$

$$7.9 = d$$

$$3.95 = r$$

$$\textcircled{2} \quad A = \pi r^2$$

$$A = \pi (3.95)^2$$

$$A = 49.0 \text{ ft}^2$$

6. A thread of length 52.31 cm is bent to form a circle.

$$A = \underline{\hspace{2cm}}$$

$$C = 52.31 \text{ cm}$$

$$\textcircled{1} \quad C = \pi d$$

$$\frac{52.31}{\pi} = \frac{\pi d}{\pi}$$

$$16.7 = d$$

$$8.35 = r$$

$$\textcircled{2} \quad A = \pi r^2$$

$$A = \pi (8.35)^2$$

$$A = 219.0 \text{ cm}^2$$

HOMWORK - (Topic #6)

Finding the Radius or Diameter When Given the Area of a Circle

Find the area or circumference of the following circles. Round your answer to the nearest tenth. Show all work.

1. A clock face has a circumference of 39.88 cm. What is the area of the clock?

$A = \underline{\hspace{2cm}}$

$C = 39.88 \text{ cm}$

① $C = \pi d$

$$\frac{39.88}{\pi} = \frac{\pi d}{\pi}$$

$12.7 \approx d$

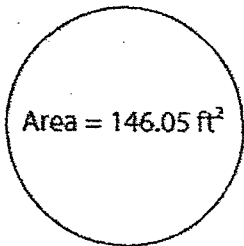
$6.35 = r$

② $A = \pi r^2$

$$A = \pi (6.35)^2$$

$A = 126.7 \text{ cm}^2$

2. Find the circumference of the following circle.



$C = \underline{\hspace{2cm}}$

$A = 146.05$

① $A = \pi r^2$

$$\frac{146.05}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{46.48915888} = \sqrt{r^2}$$

$6.8 = r$

② $C = 2\pi r$

$$C = 2\pi (6.8)$$

$C = 42.7 \text{ ft}$

3. The area of a circular floor carpet is 1,243.47 cm². Find the circumference of the floor carpet.

$C = \underline{\hspace{2cm}}$

$A = 1243.47$

① $A = \pi r^2$

$$\frac{1243.47}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{395.8087942} = \sqrt{r^2}$$

$19.9 = r$

② $C = 2\pi r$

$$C = 2\pi (19.9)$$

$C = 125.0 \text{ cm}$