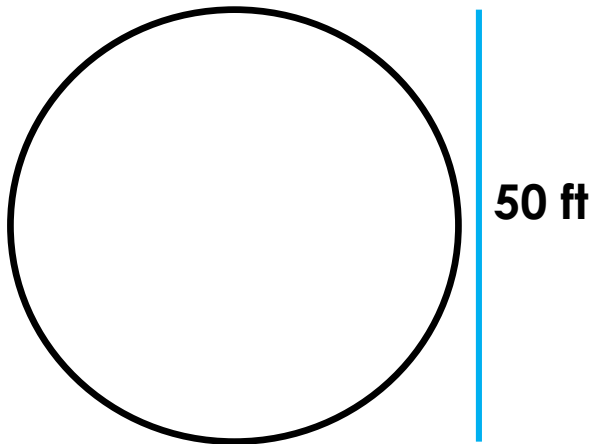# Warmup 3/ (Radius of a circle with a diameter of 38)

Created by Mr. Lischwe

1) Come up with two goals specific to this class for this 9 weeks. Write them on your slip of paper AND your warmup page.

2) Find the area and circumference. Write each answer BOTH WAYS – as an exact answer and as a decimal rounded to the nearest tenth.

50 ft

Exact Area: $625\pi \ ft^2$
Rounded Area: $1963.5 \ ft^2$

Exact Circumference: $50\pi \ ft$

Rounded Circumference: $157.1 \ ft$

BACK TO PAGE 14: Circles

Examples: Working backwards

- **If the circumference of a circle is 10 inches, find the radius.**

$$C = 2\pi r$$

$$10 = 2\pi r$$

(divide both sides by 2)

$$5 = \pi r$$

(divide both sides by π)

$$\boxed{1.6 \approx r}$$

- **If the area of a circle is 30 in², find the diameter.**

$$A = \pi r^2$$

$$30 = \pi r^2$$

(divide both sides by π)

$$9.549 \approx r^2$$

(square root!)

$$3.1 \approx r$$

$$\boxed{6.2 \approx d}$$

Examples: Working backwards

- **If the area of a circle is 36π inches, find the radius.**

$$A = \pi r^2$$

$$36\pi = \pi r^2$$ **(divide both sides by π – goes away on both sides!)**

$$36 = r^2$$

(square root!)

$$6 = r$$

- **DISCUSS WITH YOUR TABLE:**
- If the **circumference** of a circle is 16π square feet, what is the **exact** area in feet?

- **PLAN: Circumference $\rightarrow$ Radius, then Radius $\rightarrow$ Area**
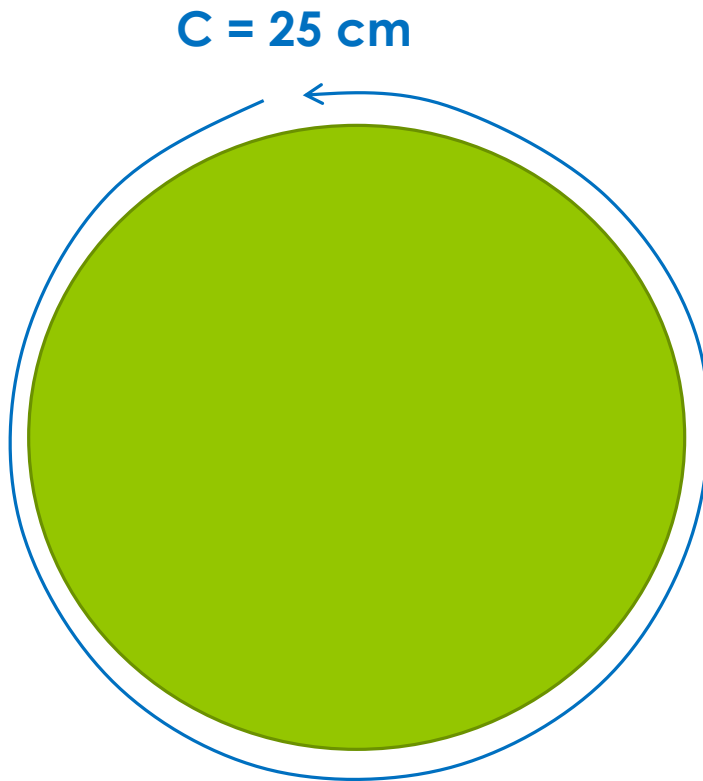
$$C = 2\pi r$$
$$16\pi = 2\pi r$$
$$16 = 2r$$
$$8 = r$$
$$A = \pi r^2$$
$$A = \pi \cdot 8^2$$
$$\boxed{A = 64\pi \ ft^2}$$

Find the area:

C = 25 cm

$$C = 2\pi r$$

$$25 = 2\pi r$$

$$\frac{25}{(2\pi)} = r$$

$$3.97887 \approx r$$

$$A = \pi r^2$$

$$A = \pi \cdot (3.97887)^2$$

$$A \approx 49.7 \; cm^2$$

Begin Challenge Worksheets – In Groups

HOMEWORK

- BOTH Area, Perimeter, Circumference Worksheets – Blue and Yellow!!!