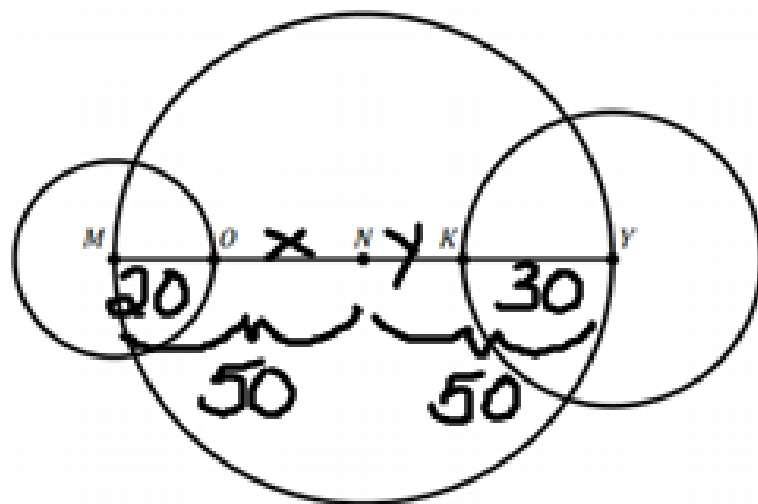


Your turn:



The diameters of circles M, N, and Y are 40 inches, 100 inches, and 60 inches, respectively.

- a. Determine the measure of ON. Justify your answer.

$$50 - 20 = 30$$

- b. Determine the measure of NK. Justify your answer.

$$50 - 30 = 20$$

What is the term for the distance around a circle?

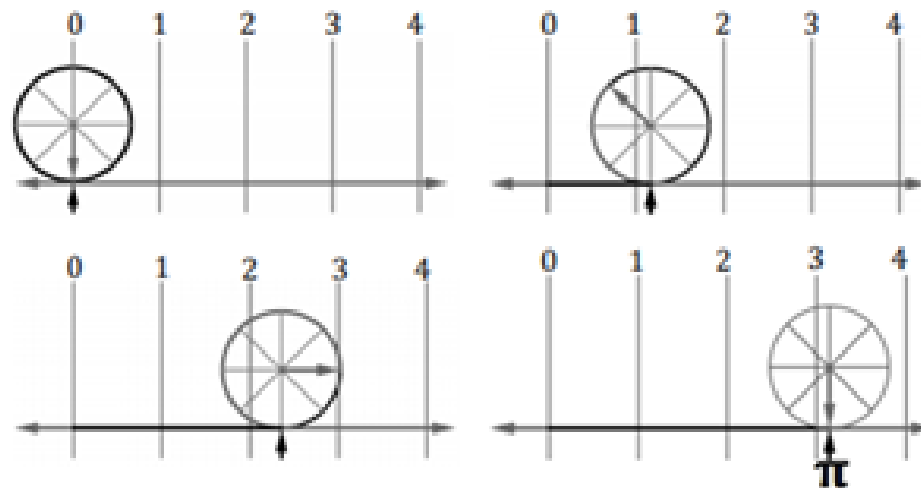
Circumference

We know that the Greek letter pi, π , is very important for circles.

What does π represent?

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

For example, take a circle whose diameter is 1 unit. If you roll it until you get back to the start, how much would it measure?

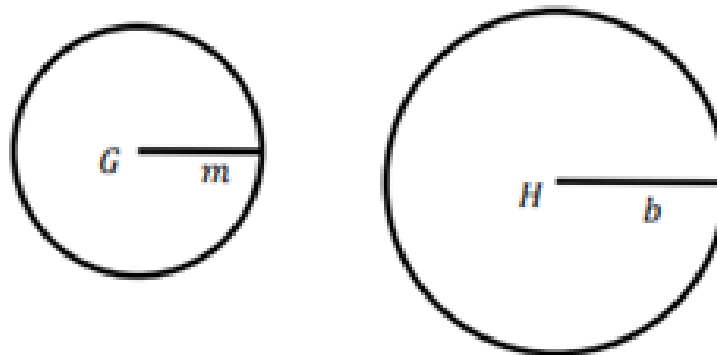


If $\pi = \frac{C}{d}$, then what is the circumference, C , of a circle?

$$C = d\pi$$

Practice:

Consider circle G with radius m and circle H with radius b shown below.



Find the circumference of both circles.

$$C = 2m\pi \quad C = 2b\pi$$

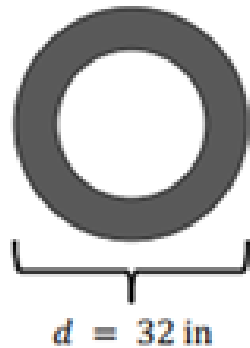
Find the ratio of circumference to radius for each circle.

$$\frac{2m\pi}{m} = 2\pi \quad \frac{2b\pi}{b} = 2\pi$$

Your turn:

Tires from two different trucks are shown. How much farther does Tire A travel compared to Tire B after one revolution?

Tire A:



Tire B:



$$32\pi - 28\pi = 4\pi$$

The army mapped out a war zone in a city. It has a radius of 7 kilometers. What is the circumference of the war zone?

Round to nearest tenth.

$$\begin{aligned} C &= 14\pi \\ &\approx 43.98 \\ &= 44 \text{ km} \end{aligned}$$

Find the radius of a circle with a circumference of 37.68 inches.
Use $\pi = 3.14$.

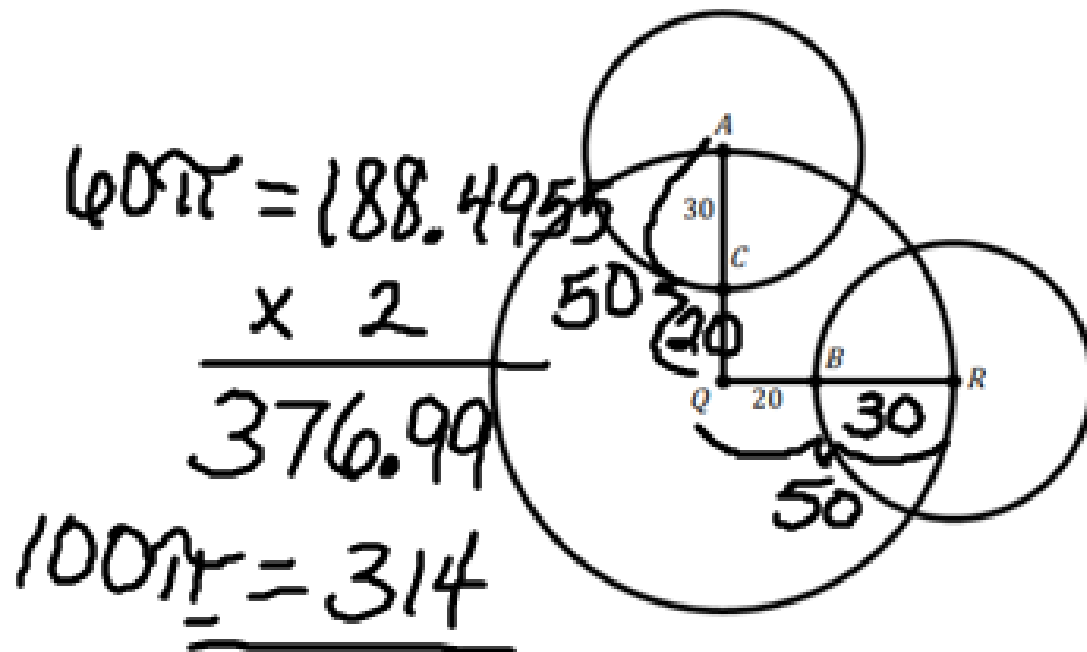
$$C = d\pi$$

$$\frac{37.68}{3.14} = \frac{d(3.14)}{3.14}$$

$$12 = d$$

$$6 = r$$

Informal Assessment:



Circle A and circle R are congruent. Which of the following statements are correct? Select all that apply.

- $QC + BR = 50$
- The radius of circle R is half the radius of circle Q .
- The combined circumference for circles A and R is almost 63 units larger than the circumference of Q .
- The radius of circle Q is 40 units long.
- The diameter of circle A is 30 units long.