

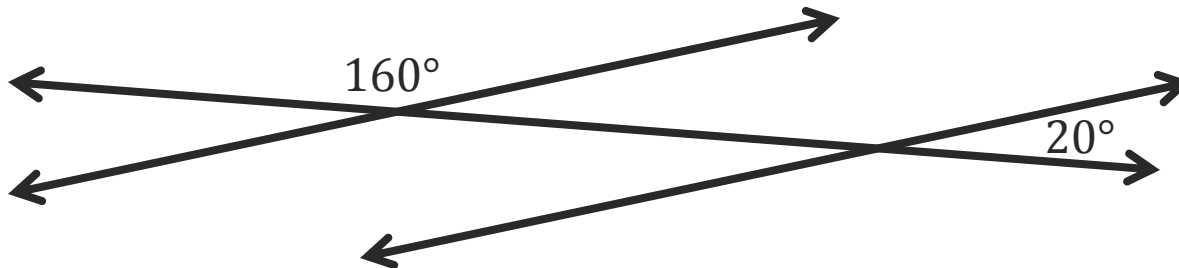
Friday, February 1, 2013

Agenda:

- TISK & 2 MM
- Lesson 9-1
- Homework: 9-1 problems in Ch 9 HW Packet #1

TISK Problems

- 1) Draw a sketch of the graph of the function $f(x) = x^2$.
- 2) Find the midpoint, M , between the points $A(5,7)$ and $B(9,11)$.
- 3) Determine if you can prove lines a and b parallel.
If so, state a postulate or theorem that supports your answer.

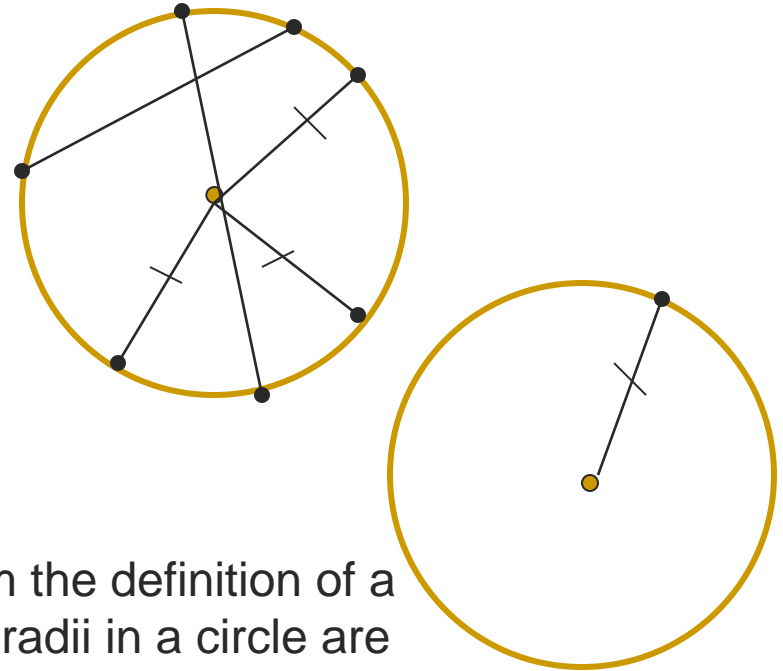


§9.1 Exploring Circles

■ Definitions

- Circle
- Center
- Radius
- Congruent Circles
- Diameter
- Chord

A circle is the set of points in a plane that are all the same distance from a given point, the center.



It follows from the definition of a circle that all radii in a circle are congruent.

§9.1 Exploring Circles

- The size of a bicycle is determined by the diameter of the wheel. So a 26-inch bicycle has a wheel with 26-inch diameter. What is the length of a spoke of a 26-inch bicycle?



A diameter is twice the length of a radius.

$$26 \text{ in} = 2r$$

$$13 \text{ in} = r$$

§9.1 Exploring Circles

■ Circumference

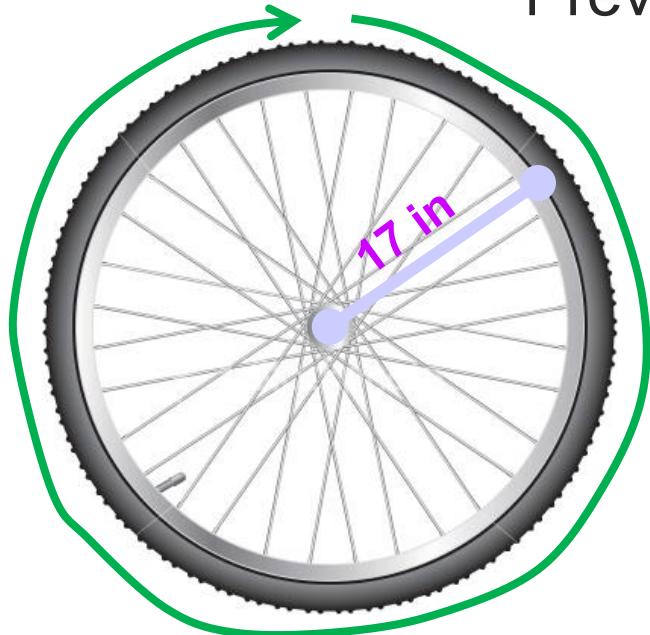
- The distance around a circle is called the **circumference**.

■ Circumference of a Circle

- If a circle has a circumference of C units and a radius of r units, then $C = 2\pi r$.

§9.1 Exploring Circles

- If the radius of a bicycle wheel is 17 inches, and the wheel turned 10,500 revolutions, how far did the bicycle travel?



1 revolution = 1 circumference of the circle

$$C = 2\pi r \quad C = 2\pi 17 \quad C = 34\pi \text{ in}$$

10,500 revolutions = ? inches

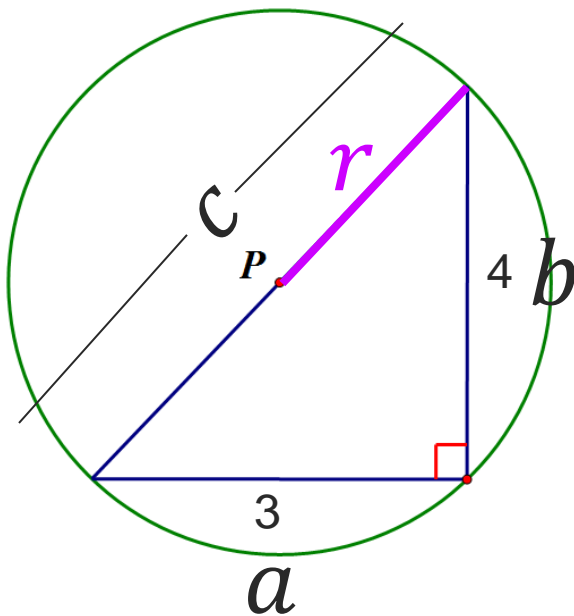
$$\frac{1 \text{ revolution}}{1 \text{ circumference}} = \frac{10,500 \text{ revolutions}}{? \text{ inches}}$$

$$\frac{1 \text{ revolution}}{34\pi \text{ in}} = \frac{10,500 \text{ revolutions}}{? \text{ in}}$$

The bicycle traveled approximately 1,121,548.6 inches.

§9.1 Exploring Circles

- Find the exact circumference of $\odot P$



$$C = 2\pi r$$
$$a^2 + b^2 = c^2 \quad \text{Pythagorean Theorem}$$

$$3^2 + 4^2 = c^2$$

$$c = 5 \quad c \text{ is also the diameter}$$

$$c = 5 = 2r$$

$$2.5 = r$$

$$C = 2\pi(2.5) = 5\pi \text{ units}$$