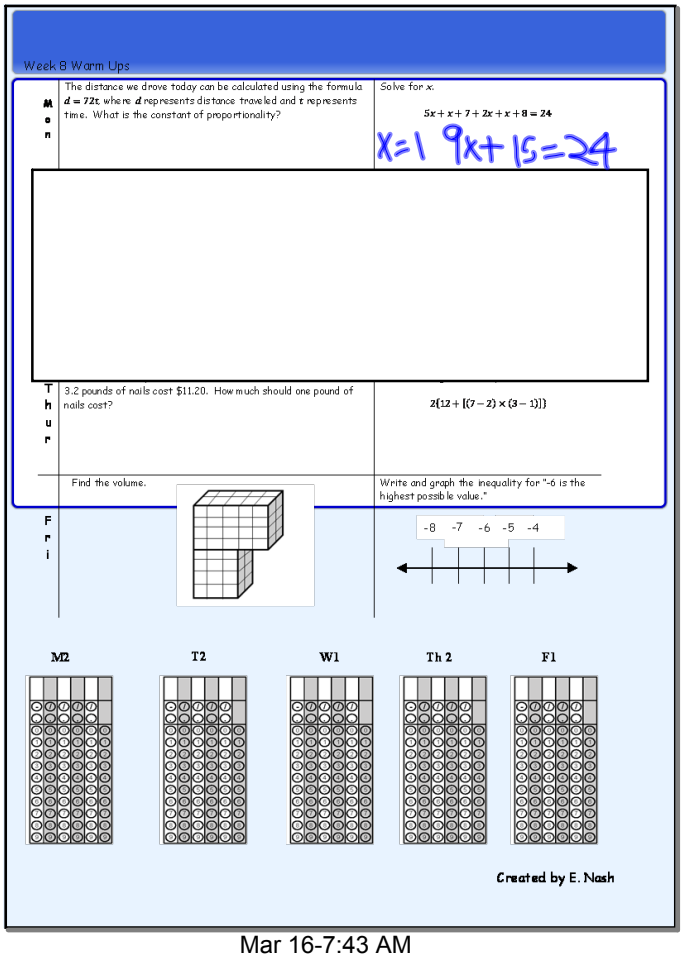


Mar 16-7:43 AM

Circles, Circumference of Circles, and Area of Circles

Jan 3-1:05 PM

While watching the video, write a definition of the following words.

diameter:

radius:

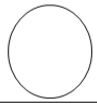
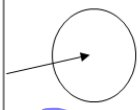
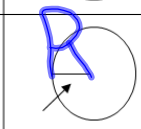
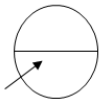
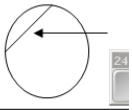
circumference:

pi:

We will discuss the area of a circle tomorrow!

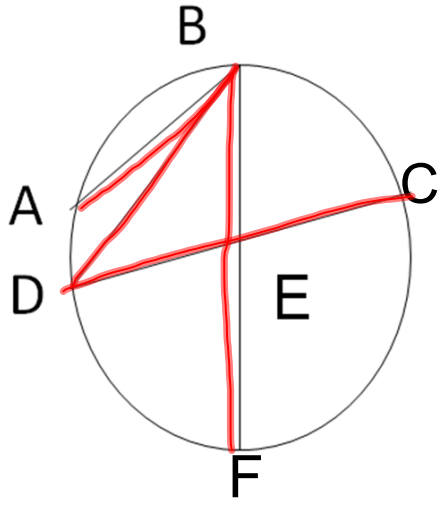
Jan 3-1:18 PM

Vocabulary

Word	Definition	Picture
circle	A set of all points in a plane that are the same distance from a given point called the center of a circle	
center of a circle	The point inside of the circle that is the same distance from all the points on the circle	
radius R	Line segment whose end points are the center of a circle and any point on the circle	
diameter D	Line segment that passes through the center of a circle and whose endpoints lie on the circle	
chord	Line segment whose endpoints are any two points on a circle	
pi	The constant 3.14, represents the ratio between the circumference and the diameter of a circle.	π

Jan 3-1:07 PM

Name the parts of the circle:



a. radii – $\overline{EF}$, $\overline{DE}$, $\overline{CE}$, $\overline{BE}$

b. diameters – $\overline{BF}$, $\overline{DC}$

c. chords – $\overline{AB}$, $\overline{DB}$, $\overline{DC}$, $\overline{BF}$

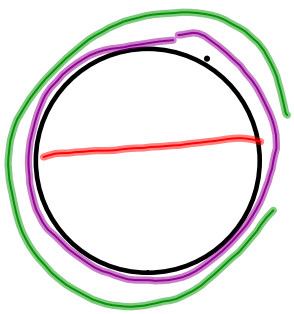
Jan 3-1:21 PM

Key Concept:
Circumference of a Circle

- the product of π and the circle's <u>diameter</u> *d*
- $C = \pi d$

or

- two times the product of π and the circle's <u>radius</u> *r*.
- $C = 2\pi r$

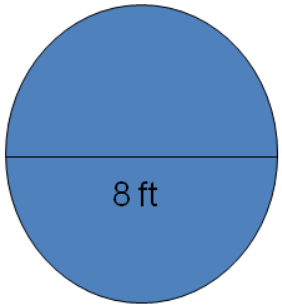


$\frac{C}{D}$

Jan 3-1:23 PM

Example: Find the circumference of each circle. Use 3.14 for π and round to the nearest hundredth.

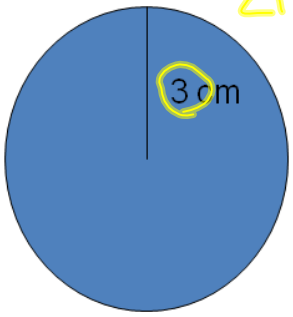
a.



$2\pi r$

$2\pi 4 = 25.12$ FT

b.



$2\pi r$

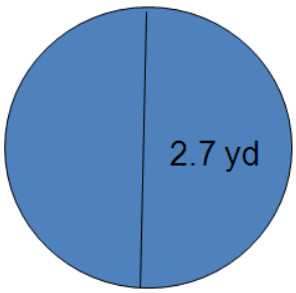
$2(3.14)3$

18.84 cm

6π

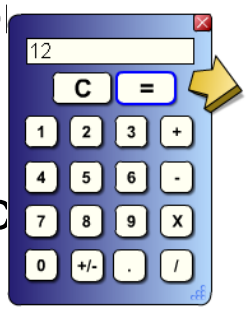
Jan 3-1:24 PM

You Try - Find the circumference. Use 3.14 for π and round to the nearest hundredth.



Jan 3-1:24 PM

Finding the length of the diameter or radius given the circumference. Use 3.14 for pi



If the circumference of a circle is 37.68cm, find the diameter. (Hint: use an equation.)

$\frac{37.68}{2\pi} = \frac{2\pi r}{2\pi}$

$12\text{cm} = D$

$6 = r$

Jan 3-1:25 PM

You try:

If the circumference of a circle is 47.1 meters, find the diameter.

If the circumference of a circle is 56.52in, find the radius.

Jan 3-1:28 PM

Key Concept: Area of a Circle

- the product of π and the square of the circle's radius *r*.

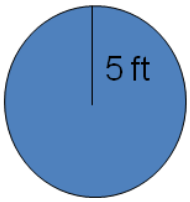
$A = \pi r^2$

- $A = \pi r^2$

Jan 3-1:50 PM

Example: Find the area of each circle. Use 3.14 for π and round to the nearest hundredth.

a.



$A = \pi r^2$

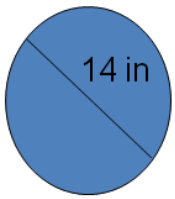
$r = 5$

$\pi(5)^2$

$\pi(25)$

$78.5 ft^2$

b.

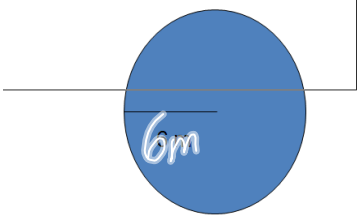


$A = \pi r^2$

$C = 2\pi r$

Mar 3-2:52 PM

You Try - Find the area of the circle. Use 3.14 for π and round to the nearest hundredth.

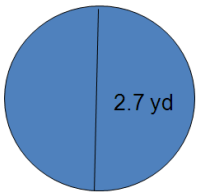


$A = \pi r^2$

$= \pi 36$

$= 113.04 m^2$

You Try - Find the circumference. Use 3.14 for π and round to the nearest hundredth.



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