

4-20-17

Aim: SWBAT review circles.

Do Now: Review WS

HW: Finish WS

Quiz Monday

## Finding the Area, the Radius, or the Diameter

$$A = \pi r^2$$

Use algebra to answer each question.

$$C = 2\pi r$$

$$C = \pi d$$

<p>4. Find the <u>radius</u> of a circle whose circumference is <math>100\pi</math>.</p> $C = 2\pi r$ $\frac{100\pi}{2\pi} = \frac{2\pi r}{2\pi}$ $50 = r$ <p>units</p>	<p>5. Find the <u>diameter</u> of a circle whose circumference is <math>10\pi</math>.</p> $C = \pi d$ $\frac{10\pi}{\pi} = \frac{\pi d}{\pi}$ $10 = d$ <p>units</p>	<p>6. Find the exact <u>area</u> of a circle whose circumference is <math>60\pi</math>.</p> $C = 2\pi r$ $\frac{60\pi}{2\pi} = \frac{2\pi r}{2\pi}$ $30 = r$ <p>units</p> $A = \pi r^2$ $A = \pi \cdot 30^2$ $A = \pi \cdot 900$ $A = 900\pi \text{ units}^2$
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<p>7. Find the radius of a circle whose circumference is <math>80\pi</math>.</p> $C = 2\pi r$ $\frac{80\pi}{2\pi} = \frac{2\pi r}{2\pi}$ $40 = r$ <p>units</p>	<p>8. Find the diameter of a circle whose circumference is <math>25\pi</math>.</p> $C = \pi d$ $\frac{25\pi}{\pi} = \frac{\pi d}{\pi}$ $25 = d$ <p>units</p>	<p>9. Find the exact area of a circle whose circumference is <math>200\pi</math>.</p> $C = 2\pi r$ $\frac{200\pi}{2\pi} = \frac{2\pi r}{2\pi}$ $100 = r$ <p>units</p> $A = \pi r^2$ $A = \pi \cdot 100^2$ $A = 10000\pi \text{ units}^2$
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$$A = \pi r^2 \quad C = 2\pi r \quad C = \pi d$$

$$C = 70\pi, r = ?$$

$$C = 2\pi r$$

$$\frac{70\pi}{2\pi} = \frac{2\pi r}{2\pi}$$

$$35 = r$$

P

$$C = 70\pi, d = ?$$

$$C = \pi d$$

$$\frac{70\pi}{\pi} = \frac{\pi d}{\pi}$$

$$70 = d$$

$$C = 70\pi, A = ?$$

$$C = 2\pi r$$

$$\frac{70\pi}{2\pi} = \frac{2\pi r}{2\pi}$$

$$35 = r$$

$$A = \pi r^2$$

$$A = \pi \cdot 35^2$$

$$A = 1225\pi$$

Name \_\_\_\_\_

Date \_\_\_\_\_

Circles Review

Period \_\_\_\_\_

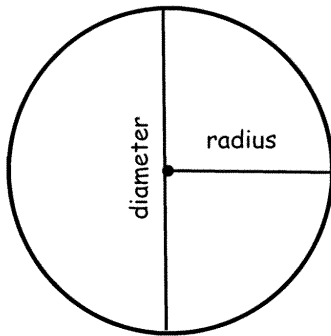
**Multiply the radius by 2 to find the diameter.**

If  $r = 2$ ,  $d =$  \_\_\_\_\_

If  $r = 5$ ,  $d =$  \_\_\_\_\_

If  $r = 20$ ,  $d =$  \_\_\_\_\_

If  $r = 2.6$ ,  $d =$  \_\_\_\_\_



**Divide the diameter by 2 to find the radius.**

If  $d = 8$ ,  $r =$  \_\_\_\_\_

If  $d = 25$ ,  $r =$  \_\_\_\_\_

If  $d = 13$ ,  $r =$  \_\_\_\_\_

If  $d = 100$ ,  $r =$  \_\_\_\_\_

The circumference of a circle is distance around the edge.

The following two formulas can be used to calculate the circumference:  $C = \pi d$  or  $C = 2\pi r$

Find the EXACT (in terms of  $\pi$ ) circumference for the following circles.

<p>A circle with radius 6 cm.</p> <p><math>C = 2\pi r</math>  <math>C = 2 \cdot \pi \cdot 6</math>  <math>C = 12\pi</math> cm</p>	<p>A circle with diameter 12 cm.</p>	<p>A circle with radius 26 cm.</p>
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Find the approximate (involves the  $\pi$  button) circumference of the following circles.

<p>A circle with diameter 40 m.</p> <p><math>C = \pi d</math>  <math>C = \pi \cdot 40</math>  <math>C = 125.6637061...</math></p> <p>Nearest whole number: <u>126</u>          Nearest tenth: <u>125.7</u>          Nearest hundredth: <u>125.66</u>          Nearest thousandths: <u>125.664</u></p>	<p>A circle with radius 11 m.</p> <p>Nearest whole number: _____          Nearest tenth: _____          Nearest hundredth: _____          Nearest thousandths: _____</p>	<p>A circle with diameter 4 m.</p> <p>Nearest whole number: _____          Nearest tenth: _____          Nearest hundredth: _____          Nearest thousandths: _____</p>
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Name \_\_\_\_\_

Date \_\_\_\_\_

## Circles Review

Period \_\_\_\_\_

The area of a circle is the space inside. The formula  $A = \pi r^2$  is used to find the area.  
 The area formula always functions with the radius!

Find the EXACT (in terms of  $\pi$ ) area for the following circles.

A circle with radius 6 cm. $A = \pi r^2$ $A = \pi \cdot 6^2$ $A = 36\pi \text{ cm}^2$	A circle with diameter 12 cm.	A circle with radius 26 cm.
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Find the approximate (involves the  $\pi$  button and rounding) area of the following circles.

A circle with diameter 40 m. $r = 20$ $A = \pi r^2$ $A = \pi \cdot 20^2$ $A = 400\pi$ $A = 1256.637061\dots$ Nearest whole number: <u>1257</u> Nearest tenth: <u>1256.6</u> Nearest hundredth: <u>1256.64</u> Nearest thousandths: <u>1256.637</u>	A circle with radius 11 m. Nearest whole number: _____ Nearest tenth: _____ Nearest hundredth: _____ Nearest thousandths: _____	A circle with diameter 4 m. Nearest whole number: _____ Nearest tenth: _____ Nearest hundredth: _____ Nearest thousandths: _____
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Name \_\_\_\_\_

Date \_\_\_\_\_

Circles Review

Period \_\_\_\_\_

When solving the area formula for  $r$ , the radius, remember that you are trying to find a number that multiplies by itself to make the coefficient. That involves square roots!

$\sqrt{1} = \underline{\hspace{2cm}}$

$\sqrt{4} = \underline{\hspace{2cm}}$

$\sqrt{9} = \underline{\hspace{2cm}}$

$\sqrt{16} = \underline{\hspace{2cm}}$

$\sqrt{25} = \underline{\hspace{2cm}}$

$\sqrt{36} = \underline{\hspace{2cm}}$

$\sqrt{49} = \underline{\hspace{2cm}}$

$\sqrt{64} = \underline{\hspace{2cm}}$

$\sqrt{81} = \underline{\hspace{2cm}}$

$\sqrt{100} = \underline{\hspace{2cm}}$

$\sqrt{121} = \underline{\hspace{2cm}}$

$\sqrt{144} = \underline{\hspace{2cm}}$

$\sqrt{169} = \underline{\hspace{2cm}}$

$\sqrt{196} = \underline{\hspace{2cm}}$

$\sqrt{225} = \underline{\hspace{2cm}}$

You can also solve the formulas algebraically to find the radius or diameter.

<p>Find the radius of a circle whose circumference is <math>25\pi</math>.</p> <p><math>C = 2\pi r</math>  <math>25\pi = 2\pi r</math>  <math>\frac{25\pi}{2\pi} = \frac{2\pi r}{2\pi}</math>  <math>12.5 = r</math></p>	<p>Find the diameter of a circle whose circumference is <math>25\pi</math>.</p> <p><math>C = \pi d</math>  <math>25\pi = \pi d</math>  <math>\frac{25\pi}{\pi} = \frac{\pi d}{\pi}</math>  <math>25 = d</math></p>	<p>Find the radius of a circle whose area is <math>25\pi</math>.</p> <p><math>A = \pi r^2</math>  <math>25\pi = \pi r^2</math>  <math>\frac{25\pi}{\pi} = \frac{\pi r^2}{\pi}</math>  <math>25 = r^2</math>  <math>5 = r</math></p>
<p>Find the radius of a circle whose circumference is <math>49\pi</math>.</p>	<p>Find the diameter of a circle whose circumference is <math>49\pi</math>.</p>	<p>Find the radius of a circle whose area is <math>49\pi</math>.</p>
<p>Find the radius of a circle whose circumference is <math>81\pi</math>.</p>	<p>Find the diameter of a circle whose circumference is <math>81\pi</math>.</p>	<p>Find the radius of a circle whose area is <math>81\pi</math>.</p>