

Name Key  
Mrs. Roumbos

Date \_\_\_\_\_  
8R Period \_\_\_\_\_

Circles Do Now

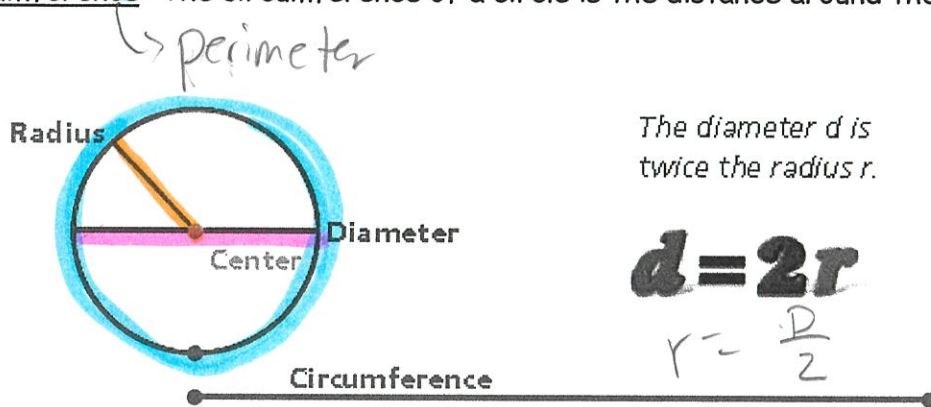
I. Definitions

1) **Circle**- A circle is the set of points in a plane that are a fixed distance from a given point, called the *center*.

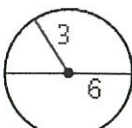
2) **Radius**- A radius connects the center to any point on the circle

3) **Diameter**- A diameter connects two points on the circle and passes through the center.

4) **Circumference**- The circumference of a circle is the distance around the circle



II.

| CIRCUMFERENCE OF A CIRCLE  |   |                                   |
|--|---|-----------------------------------|
| Words  | Numbers   | Formula                           |
| The circumference $C$ of a circle is $\pi$ times the diameter $d$ , or $2\pi$ times the radius $r$ . |  $C = \pi(6)$<br>$= 2\pi(3)$<br>$\approx 18.8$ units | $C = \pi d$<br>or<br>$C = 2\pi r$ |

$\rightarrow$  Diameter

$$C = \pi D$$

↓  
Diameter

Examples

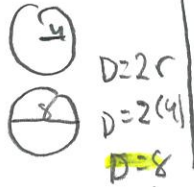
For questions 1-2 find the circumference of each circle the nearest tenth. Use 3.14 for  $\pi$ .

1) Circle with radius 4 m

$$C = \pi D$$

$$C = (3.14)(8)$$

$$C = 25.1 \text{ m}$$



2) Circle with diameter 3.3 ft

$$C = \pi D$$

$$C = (3.14)(3.3)$$

$$C = 10.4 \text{ ft}$$

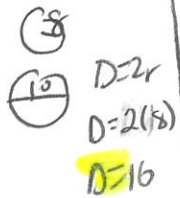
For questions 3-4 find the circumference. Leave you answer in terms of  $\pi$ . *leave as the symbol  $\pi$  (don't use the calculator)*

3) Circle with radius 8 cm

$$C = \pi D$$

$$C = \pi \cdot 16$$

$$C = 16\pi \text{ cm}$$



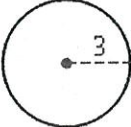
4) Circle with diameter 4.25 in

$$C = \pi D$$

$$C = \pi \cdot 4.25$$

$$C = 4.25\pi \text{ in}$$

III.

| AREA OF A CIRCLE   |  |               |
|--|--|---------------|
| Words  | Numbers  | Formula       |
| The area $A$ of a circle is $\pi$ times the square of the radius $r$ . |  $A = \pi(3^2)$ $= 9\pi$ $\approx 28.3 \text{ units}^2$ | $A = \pi r^2$ |

Examples

For questions 1-2 find the area of each circle the nearest tenth. Use  $\pi$  button when they don't say what to use for  $\pi$ .

1) Circle with radius 3 in

$$A = \pi r^2$$

$$A = \pi \cdot (3)^2$$

$$A = 28.3 \text{ in}^2$$

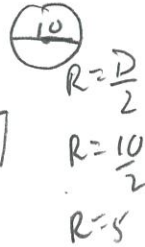
$$A = \pi \cdot 9$$

2) Circle with diameter 10 m

$$A = \pi r^2$$

$$A = \pi \cdot (5)^2$$

$$A = 78.5 \text{ m}^2$$



For questions 3-4 find the area. Leave you answer in terms of  $\pi$ .

3) Circle with radius 7 cm

$$A = \pi r^2$$

$$A = \pi \cdot (7)^2$$

$$A = \pi \cdot 49$$

$$A = 49\pi \text{ cm}^2$$

4) Circle with diameter 12 ft

$$A = \pi r^2$$

$$A = \pi \cdot (6)^2$$

$$A = \pi \cdot 36$$

$$A = 36\pi \text{ ft}^2$$

