

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

GEOMETRY

PERIOD: \_\_\_\_\_

## Review - Circumference & Area of Circles

Read and answer each question carefully. For each question include the following: (1) Formula, (2) Substitution, (3) Simplify, and (4) Include appropriate units.

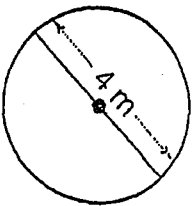
1. What is the difference between a radius and a diameter?

2. What is the circumference of a circle?

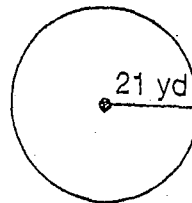
If a circle has a radius of 1 foot, what is the diameter?

4. If a circle has a diameter of 1 foot, what is the radius?

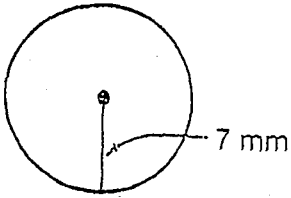
5. What is the approximate circumference of the circle below? Use 3.14 for  $\pi$ .



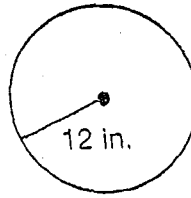
6. Find the approximate circumference of the circle below. Use  $\frac{22}{7}$  for  $\pi$ .



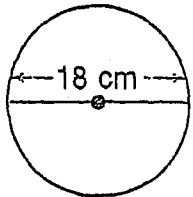
7. Find the approximate area of the circle below.  
Use  $\frac{22}{7}$  for  $\pi$ .



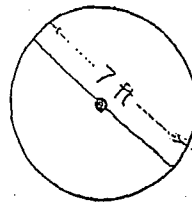
8. Find the approximate area of the circle below.  
Round your answer to the *nearest tenth*.



9. Find the approximate area of the circle below.  
Round your answer to the *nearest hundredth*.



10. Find the approximate area of the circle below.  
Use  $\frac{22}{7}$  for  $\pi$ .



11. A circular track has a diameter of 225 meters.  
If Ava runs around the outside of the track  
twice, approximately how many meters will she  
run? Round your answer to the *nearest tenth*.

12. If the circumference of a circle is  $26\pi$   
millimeters, what is the radius of the circle?

13. If the circumference of a circle is 31.4 meters, what is the approximate diameter of the circle?

14. A company produces a circular tablecloth with a diameter of 6 feet. How many square feet of fabric will there be in one completed tablecloth?

15. The circumference of a circle is  $9\pi$  inches. What is the diameter of the circle?

16. What is the radius of a circle when the circumference is  $26\pi$  cm?

17. The area of a circle is  $25\pi$  square centimeters. What is the radius of the circle?

18. A circle has a diameter of 8 inches. What is the approximate area of the circle? Use 3.14 for  $\pi$ .

19. A circus clown rides a unicycle with a wheel that is 30 inches in diameter. Approximately what distance does the unicycle travel if the tire completes 10 revolutions? Show and explain your work.

20. A simple impact crater on the moon has a diameter of 15 kilometers. A complex impact crater has a radius of 30 kilometers. How much greater is the circumference of the complex impact crater than the simple compact crater?

21. An FM radio station signal travels in a 40-mile radius. An AM radio station signal travels in a 4-mile radius. How much more area does the FM station cover than the AM station?



## Review – Circumference & Area of Circles

Read and answer each question carefully. For each question include the following: (1) Formula, (2) Substitution, (3) Simplify, and (4) Include appropriate units.

1. What is the difference between a radius and a diameter?

*A radius is half the diameter.  
 A radius is a line segment from the center of a circle to any point on the circle. A diameter is a line segment that connects 2 points on a circle & passes thr/ its center.*

2. What is the circumference of a circle?

*The circumference of a circle is the distance around a circle.*

3. If a circle has a radius of 1 foot, what is the diameter?

$$d = 2r$$

$$d = 2(1)$$

$$d = 2 \text{ feet}$$

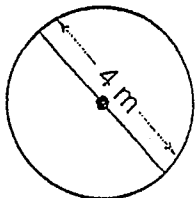
4. If a circle has a diameter of 1 foot, what is the radius?

$$r = \frac{d}{2}$$

$$r = \frac{1}{2}$$

$$r = 0.5 \text{ ft or } 6 \text{ inches}$$

5. What is the approximate circumference of the circle below? Use 3.14 for  $\pi$ .



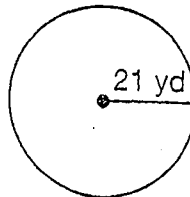
$$d = 4m$$

$$C = \pi d$$

$$C = 3.14(4)$$

$$C = 12.56 \text{ m}$$

6. Find the approximate circumference of the circle below. Use  $\frac{22}{7}$  for  $\pi$ .



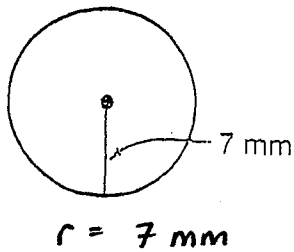
$$r = 21 \text{ yd}$$

$$C = 2\pi r$$

$$C = 2\left(\frac{22}{7}\right)(21)$$

$$C = 132 \text{ yd}$$

7. Find the approximate area of the circle below.  
Use  $\frac{22}{7}$  for  $\pi$ .

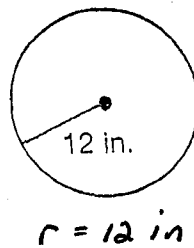


$$A = \pi r^2$$

$$A = \left(\frac{22}{7}\right) (7)^2$$

$$A = 154 \text{ mm}^2$$

8. Find the approximate area of the circle below.  
Round your answer to the nearest tenth.

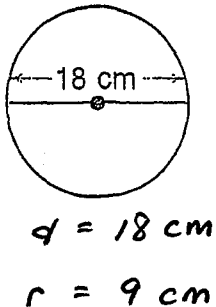


$$A = \pi r^2$$

$$A = \pi (12)^2$$

$$A = 452.4 \text{ in}^2$$

9. Find the approximate area of the circle below.  
Round your answer to the nearest hundredth.

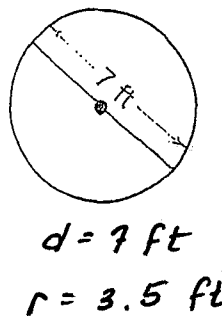


$$A = \pi r^2$$

$$A = \pi (9)^2$$

$$A = 254.47 \text{ cm}^2$$

10. Find the approximate area of the circle below.  
Use  $\frac{22}{7}$  for  $\pi$ .



$$A = \pi r^2$$

$$A = \frac{22}{7} (3.5)^2$$

$$A = 38.5 \text{ ft}^2$$

11. A circular track has a diameter of 225 meters.  
If Ava runs around the outside of the track twice, approximately how many meters will she run? Round your answer to the nearest tenth.

$$C = \pi d$$

$$C = \pi (225)$$

$$C = 706.9 \text{ m}$$

↑

No# of meters  
once around the  
track

$$706.9(2)$$

$$(1413.8 \text{ m})$$

↑

No# of meters  
twice around  
the track.

12. If the circumference of a circle is  $26\pi$  millimeters, what is the radius of the circle?

$$r = \underline{13 \text{ mm}} \quad C = 2\pi r$$

$$\frac{26\pi}{2\pi} = \frac{2\pi r}{2\pi}$$

$$13 = r$$

mm

13. If the circumference of a circle is 31.4 meters, what is the approximate diameter of the circle?

$$d = \frac{10 \text{ m}}{1}$$

$$C = \pi d$$

$$\frac{31.4}{\pi} = \frac{\pi d}{\pi}$$

$$9.994930426 = d$$

14. A company produces a circular tablecloth with a diameter of 6 feet. How many square feet of fabric will there be in one completed Area?

$$d = 6 \text{ ft}$$

$$r = 3 \text{ ft}$$

$$A = \pi r^2$$

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

$$A = 28.27433388 \text{ ft}^2$$

15. The circumference of a circle is  $9\pi$  inches. What is the diameter of the circle?

$$d = \frac{9 \text{ in}}{1}$$

$$C = \pi d$$

$$\frac{9\pi}{\pi} = \frac{\pi d}{\pi}$$

$$9 = d$$

16. What is the radius of a circle when the circumference is  $26\pi$  cm?

$$r = \frac{13 \text{ cm}}{1}$$

$$C = 2\pi r$$

$$\frac{26\pi}{2\pi} = \frac{2\pi r}{2\pi}$$

$$13 = r$$

17. The area of a circle is  $25\pi$  square centimeters. What is the radius of the circle?

$$r = \frac{5 \text{ cm}}{1}$$

$$A = \pi r^2$$

$$\frac{25\pi}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{25} = \sqrt{r^2}$$

$$5 = r$$

18. A circle has a diameter of 8 inches. What is the approximate area of the circle? Use 3.14 for  $\pi$ .

$$d = 8 \text{ in}$$

$$r = 4 \text{ in}$$

$$A = \pi r^2$$

$$A = (3.14)(4)^2$$

$$A = 50.24 \text{ in}^2$$

19. A circus clown rides a unicycle with a wheel that is 30 inches in diameter. Approximately what distance does the unicycle travel if the tire completes 10 revolutions? Show and explain your work.

Circumference?

$$C = \pi d$$

$$C = \pi (30)$$

$$C \approx 94.2 \text{ in}$$



1 revolution

94.2 (10)

942 in

10 revolutions

20. A simple impact crater on the moon has a diameter of 15 kilometers. A complex impact crater has a radius of 30 kilometers. How much greater is the circumference of the complex impact crater than the simple compact crater?

r = 30

d = 60

Simple Impact Crater

$$C = \pi d$$

$$C = \pi (15)$$

$$C = 15\pi$$

Complex Impact Crater

$$C = \pi d$$

$$C = \pi (60)$$

$$C = 60\pi$$

$$60\pi - 15\pi$$

45π  
KM

141.37 16694  
KM

21. An FM radio station signal travels in a 40-mile radius. An AM radio station signal travels in a 4-mile radius. How much more area does the FM station cover than the AM station?

FM

$$A = \pi r^2$$

$$A = \pi (40)^2$$

$$A = 1600\pi$$

$$A = 5026.5$$

AM

$$A = \pi r^2$$

$$A = \pi (4)^2$$

$$A = 16\pi$$

$$A = 50.3$$

$$1600\pi - 16\pi$$

1584π  
mi<sup>2</sup>

4976.282 763  
mi

$$5026.5 - 50.3$$