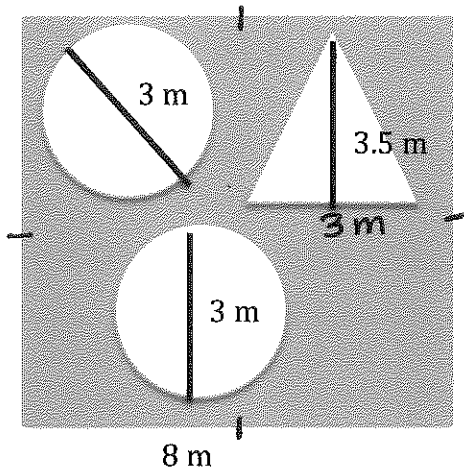Name _____

Boot Camp #4: Circles
Take Home and Check
All About World Records!

Round to 100ths.

1) Find the area of the shaded region.

C
Acc

3 m

3.5 m

3 m

3 m

8 m

Square $= b \times h$
$8 \times 8 = 64 m^2$

circles $= \pi r^2$

$(3.14)(1.5)(1.5)$

7.07×2 circles $=$
14.14

triangle $= \dfrac{bh}{2} = \dfrac{(3)(3.5)}{2} = \dfrac{10.5}{2} = 5.25$

$14.14 + 5.25 = 19.39$

$\begin{array}{l} 64 \\ \text{Square} \end{array} - \begin{array}{l} 19.39 \\ \text{tri} \\ \text{circles} \end{array} = \boxed{44.61 m^2}$

2) What is the circumference of a tire swing with an area of 91 in^2?

C
Acc

$A = \pi r^2$
$91 = (3.14) r^2$
$r^2 = \dfrac{91}{3.14}$

$r^2 = 28.98$
$r = \sqrt{28.98}$
$r = 5.38 in$

$C = 2 \pi r$
$= 2(3.14)(5.38)$
$\boxed{C = 33.79 in}$

A

3) The largest digital chiming round clock is in Saudi Arabia. It measures 21.5 feet from its center to the outside rim. What is the distance around the clock?

Looking for circumference:

$C = 2\pi r$

$C = (2)(3.14)(21.5)$

$\boxed{C = 135.02 \text{ ft}}$

A, B

4) What is the area of the world's biggest cookie, which is 102 feet wide?

Looking for area:

$A = \pi r^2$

$\frac{102}{2}$

$A = (3.14)(51)(51)$

$\boxed{A = 8167.14 \text{ ft}^2}$

that's a BIG cookie!

B, C

5) The world's biggest pumpkin pie has an area of $314 \, ft^2$. What is its circumference?

$A = \pi r^2$

$314 = (3.14)(r^2)$

$314 \div 3.14 = r^2$

$100 = r^2$

$\sqrt{100} = r$

$r = 10$

$C = 2\pi r$

$= (2)(3.14)(10)$

$\boxed{C = 62.8 \text{ ft}}$

6) The world's largest pizza has a diameter of 131 ft. What is its area? What is its circumference?

6) diameter = 131

radius = $\frac{131}{2}$ = 65.5

$A = \pi r^2$

= (3.14)(65.5)(65.5)

$\boxed{A = 13471.39 \text{ ft}^2}$

$C = 2\pi r$

(2)(3.14)(65.5)

$\boxed{C = 411.34 \text{ ft}}$

7) A roundabout is a traffic circle. The world's biggest roundabout is 2.7 miles in diameter. How many miles does a car go to get all the way around the circle?

A
B
C

7) Looking for circumference

Diameter = 2.7 m

radius = 1.35 m

$C = \pi d$

= (3.14)(2.7)

$\boxed{C = 8.48 \text{ m}}$

C, Acc

8) The largest burger in the world weighed 134 lb. and was 2 ft in diameter. It cost $400. How much did the burger cost per square foot?

Looking for area   dia = 2
8) Area = πr^2 r = 1

$= (3.14)(1^2)$

$A = 3.14 \, ft^2$

$400 \div 3.14 = \$127.39/ft^2$

C, Acc

9) The largest round swimming pool is the Coliseum Pool at Pelican Beach Resort. It has an area of 14,519.36 ft². The hotel wants to install a special slide that goes from the center of the pool to its edge. How long will the slide be?

C
Acc

9) Looking for radius.

$A = \pi r^2$

$14519.36 = (3.14) r^2$

$r^2 = \dfrac{14519.36}{3.14}$

$r^2 = 4624$

$r = \sqrt{4624}$

$r = 68 \, ft$

10) Mary has a circular dining table with a radius of 0.65 m.

A
B a) What is the area of the top of the
C   table.

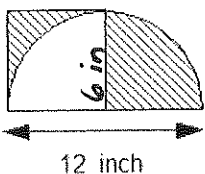b) The perimeter of the circular tablecloth is 5m. What is the diameter of the tablecloth?

10)

a) $A = \pi r^2$

$= (3.14)(.65)(.65)$

$= \boxed{1.33\ m^2}$

b) $C = \pi d$

$5 = (3.14)d$

$\dfrac{5}{3.14} = d$

$d = \boxed{1.59m}$

ACC

11) A half circle overlaps with a square. The diameter of the half circle is 12 inches. What is the area of the striped parts?
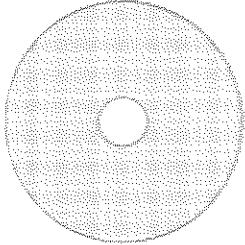

6 in

12 inch

11) $\dfrac{1}{2}\ circle = \dfrac{\pi r^2}{2} = \dfrac{(3.14)(36)}{2} =$

$= \dfrac{113.04}{2} = 56.52$

$\dfrac{56.52}{2} = 28.26\ in.$

Square $= 36\ in^2$

$36 - 28.26\ in = 7.74\ in^2$

$28.26 + 7.74 = \boxed{36\ in^2}$

Page 5

12) How much ribbon is required to trim a circular skirt along the waist and along the hem if the diameter of the skirt is 2m and the waist hole has an area of $200 \, cm^2$.

Acc

12) Looking for circumference
Waist & hem

Waist =
$$200 = \pi r^2$$
$$200 = (3.14) r^2$$
$$r^2 = 63.69$$
$$r = \sqrt{63.69}$$
$$r = 7.98$$
$$C = 2 \pi r$$
$$= (2)(3.14)(7.98)$$
$$= 50.11 \, cm$$

hem =
diameter = 200 cm.
$$C = \pi d$$
$$= (3.14)(200)$$
$$= 628 \, cm$$

$$628 + 50.11 = \boxed{678.11 \, cm.}$$
$$\boxed{or \; 6.78 \, m}$$

---

13) The radius of a circle is 5 inches. What is the

A

B

a) diameter
b) circumference
c) area

13) $D = 10 \, in = 5 \times 2$

$$C = 2 \pi r$$
$$(2)(3.14)(5) = \boxed{31.4 \, in}$$

$$A = \pi r^2$$
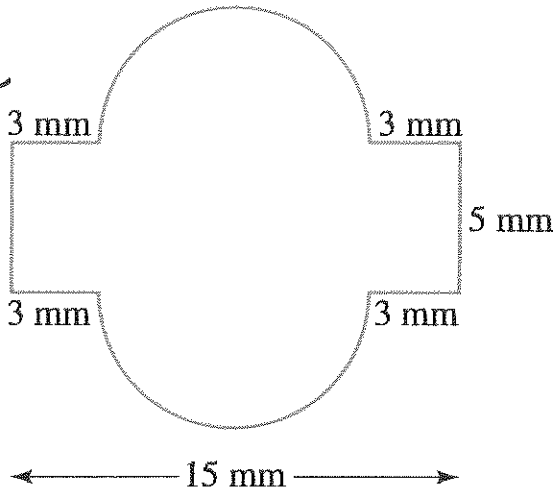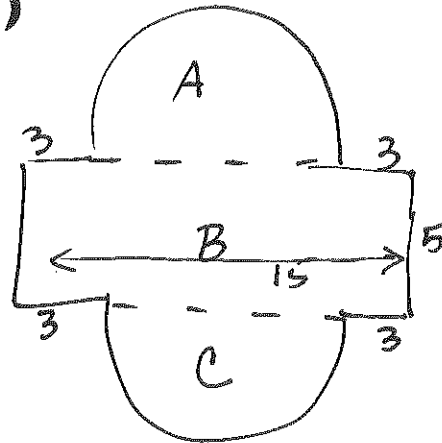$$(3.14)(25)$$
$$\boxed{78.5 \, in^2}$$

Page 6

14) What is the area of the figure below.

B
C
Acc

3 mm   3 mm

5 mm

3 mm   3 mm

←———— 15 mm ————→

14)

$A + C = 1$ circle

$$\pi r^2 = (3.14)(4.5)(4.5)$$

$(d = 15 - 6 = 9)$

$A = 63.59$

$B = bh$

$(15)(5) = 75$

$63.59 + 75 = \boxed{138.59 \ mm^2}$

A, B

15) What is the circumference and area of this circle?

A
B

6.2 cm
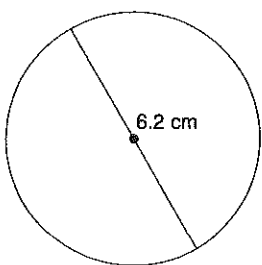
15) $C = \pi d$

$= (3.14)(6.2)$

$= \boxed{19.47 \ cm}$

$A = \pi r^2$

$(3.14)(3.1)(3.1)$

$= \boxed{30.18 \ cm^2}$

B,C, Acc

16) Fill in the missing measurements in the table below.

Radius	Diameter	Circumference	Area
10 in			
	10 ft		
		76.4 in	
			379.94 ft²

16)

Radius	Diameter	Circumference πd	Area πr^2
10 in	20 in	$(3.14)(20) =$ 628 in	$(3.14)(100)$ 314 in²
5 ft	10 ft	$(3.14)(10) =$ 31.4 ft	$(3.14)(25)$ 78.5 ft²
12.17 in.	πd 76.4 = 3.14d d = 24.33 in	76.4 in	$(3.14)(148.11)$ 465.07 in²
$A = \pi r^2$ 379.94 = (3.14)r² r² = 121 r = 11 ft	πd d = 22 ft	$(3.14)(22)$ 69.08 ft	379.94 ft²

A, B, C, Acc

17)

A rope is wrapped eight times around a cylindrical post, the diameter of which is 35cm. How long is the rope?
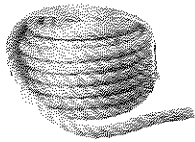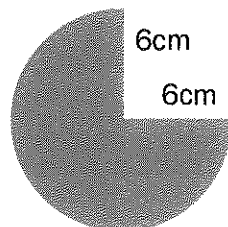
17)

$$C = \pi d$$
$$= (3.14)(35)$$
$$C = 109.9$$
$$109.9 \times 8 = \boxed{879.2 \ cm}$$

Acc, A, B, C

18) What is the area of the shaded region?

6cm
6cm

18) Circle :
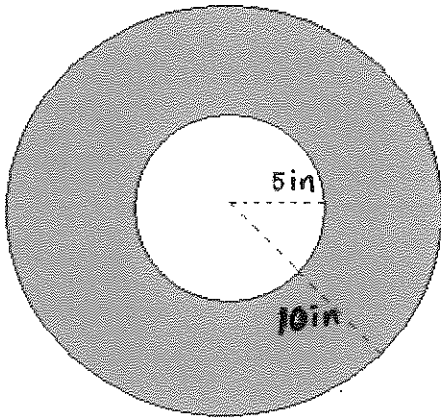
$$\pi r^2 = (3.14)(36)$$
$$A = 113.04$$
$$75\% \ of \ 113.04 =$$
$$.75 \ (113.04) = \boxed{84.78 \ cm^2}$$

A,B

19) Find the area of the shaded region.

5in
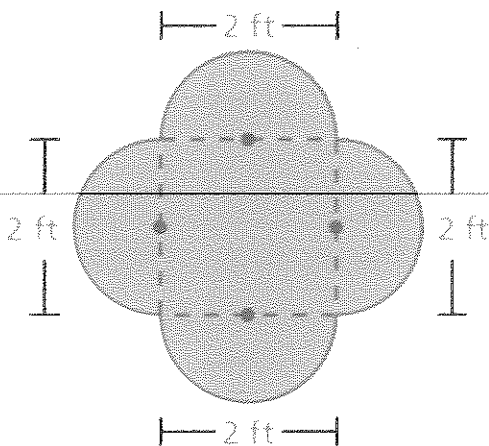
10in

2 circles

big circle =
$$\pi r^2$$
(3.14)(10)(10)
314 in²

sm circle =
$$\pi r^2$$
(3.14)(5)(5)
78.5 in²

314 - 78.5 = $\boxed{235.50 \text{ in}^2}$

A

20) Find the area of the figure below.

├─ 2 ft ─┤

2 ft   2 ft

├─ 2 ft ─┤

2 circles
1 Square

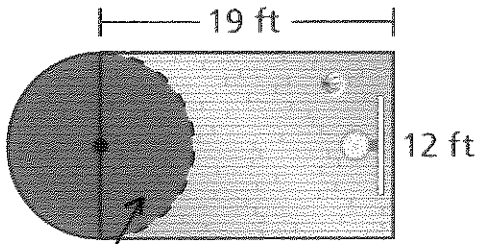**Circles**
$$\pi r^2$$
(3.14)(2)(2)
12.56 × 2 of them = 25.12

Square
2 × 2 = 4
b × h

25.12 + 4 = $\boxed{29.12 \text{ ft}^2}$

A, B

21) Find the area of the portion of the
basketball court below.

— 19 ft —

12 ft

Do not
count this
part of the circle

$\frac{1}{2}$ circle
rectangle.
$bh = 19 \times 12 = 228 \text{ ft}^2$

$\frac{1}{2}$ circle
πr^2
$(3.14)(6)(6) = \dfrac{113.04}{2} = 56.52$

$228 + 56.52 =$
$\boxed{284.52 \text{ ft}^2}$