

Grade 7 M3 L13, 14, 15: Problem Set Solutions:

Find the area of each circle. Round to the nearest TENTHS place (.0)

1)

$A = \pi r^2$
 $A = (3.14)(10.5^2)$
 $A = 3.14 (110.25)$
 $A = 346.185 \text{ cm}^2$
 $A \approx 346.19 \text{ cm}^2$

$A = \pi r^2$
 $A = (3.14)(40.5^2)$
 $A = 3.14 (1,640.25)$
 $A = 5,150.385 \text{ ft}^2$

$A = \pi r^2$
 $r = 22.5$
 $A = (3.14)(22.5^2)$
 $A = 3.14 (506.25)$
 $A = 1,589.625 \text{ cm}^2$

2. A circle has a diameter of 20 inches.

a. Find the exact area, and find an approximate area using $\pi \approx 3.14$.

$A = \pi r^2$
 $d = 20 \text{ so } r = 10$
 $A = (3.14)(10^2)$
 $A = 3.14 (100)$
 $A = 314 \text{ in}^2$

b. What is the circumference of the circle using $\pi \approx 3.14$?

If the diameter is 20 in., then the circumference is $C = \pi d$ or $C \approx 3.14 \cdot 20 \text{ in.} \approx 62.8 \text{ in.}$

3. A circle has a diameter of 11 inches.

a. Find the exact area and an approximate area using $\pi \approx 3.14$.

$A = \pi r^2$
 $d = 11 \text{ so } r = 5.5$
 $A = (3.14)(5.5^2)$
 $A = 3.14 (30.25)$
 $A = 94.985 \text{ in}^2$

b. What is the circumference of the circle using $\pi \approx 3.14$?

If the diameter is 11 inches, then the circumference is $C = \pi d$ or $C \approx 3.14 \cdot 11 \text{ in.} \approx 34.54 \text{ in.}$

4. Using the figure below, find the area of the circle. Then, if the circle was cut out of the square, how much paper would be wasted?

	Circles Area	Squares Area	Squares Area minus Circle Area
$A = \pi r^2$ $d = 10 \text{ so } r = 5$ $A = (3.14)(5^2)$ $A = 3.14 (25)$ $A = 78.5 \text{ cm}^2$	$A = l * w$ $A = 10 * 10$ $A = 100 \text{ cm}^2$	100.00 $- 78.50$ <hr style="width: 50%; margin: 0 auto;"/> 21.5 cm^2	