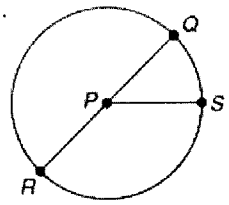
Name: Key Period: _____ Date: 2.22.16

Math 7 **Chapter 12 PreTest** **Round answers to the nearest hundredth, as necessary.**

1. A circle is shown.



Identify each of the following in the figure.

a. the center of the circle

Point P

b. a diameter of the circle

$\overline{QR}$

c. three radii of the circle

$\overline{PQ}$ $\overline{PR}$ $\overline{PS}$

2. Zach ran 5 laps around a circular track with diameter of length 150 feet. How far did he run? Show the formula you used and all your calculations. If a formula involves π, first give an exact answer. Then, calculate an approximate answer using 3.14 for π.

$C = \pi d 5$

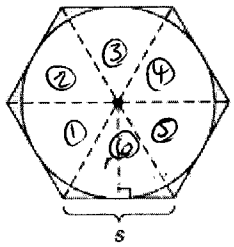
$C = 5(150\pi)$

Exact $C = 750\pi$ feet

Approximate $C \approx 750(3.14)$

$C \approx 2{,}355$ feet

3. A circle with radius of length r is inscribed in a regular hexagon.



a. Write an expression for the area of the hexagon using s and r.

triangle area $A = \frac{1}{2}rs$

hexagon area $A = 6\left(\frac{1}{2}\right)rs$

$A = 3rs$

b. Then write an expression for the area using P, the perimeter of the hexagon, and r.

$P = 6s$

$A = \frac{P}{2}r$ OR $A = \frac{1}{2}Pr$

4. The advertised size of a pizza is the length of its diameter. What is the area of the crust of a 16-inch pizza? Show the formula you used and all your calculations. If a formula involves π, first give an exact answer. Then, calculate an approximate answer using 3.14 for π.

$d = 16$ in.

$r = 8$ in.

$A = \pi r^2$

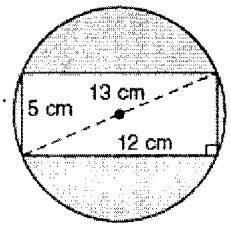
$A = \pi(8)(8)$

$A = 64\pi$ sq in

$A \approx 64(3.14)$

$A \approx 200.96$ sq in.

5. A rectangle is inscribed in a circle.



a. Calculate the exact area of the circle. Show your formula and calculations.

$d = 13$

$r = 13 \div 2$

$r = 6.5$ cm

$A = \pi r^2$

$A = \pi(6.5)(6.5)$

$A = 42.25\pi \text{ cm}^2$

42.25π

b. Calculate the area of the rectangle. Show your formula and calculations.

$A = lw$

$A = 12(5)$

$A = 60 \text{ cm}^2$

c. Calculate the exact area of the shaded region. Then, calculate the approximate area using 3.14 for π. Show all of your work.

Exact: Area of Circle − Area of Rectangle = Shaded Area

$42.25\pi - 60 \text{ cm}^2 = \text{Shaded Area}$

Approximate:

$42.25(3.14) - 60$

$132.665 - 60$

$72.665 \text{ cm}^2 \approx \text{Area of shaded region}$