



SUMMER PACKET – Prerequisites for Geometry/Geometry Honors

1. **Without a calculator**, students must be able to:

- Perform basic mathematical operations.
- Add, subtract, multiply, divide, and square fractions.
- Simplify radicals.

a. $\sqrt{125} = \underline{\hspace{2cm}}$

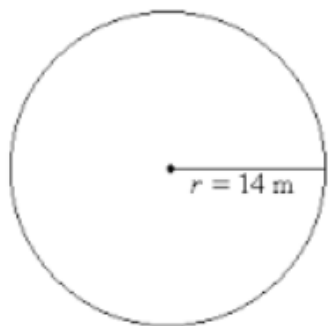
b. $\sqrt{48} = \underline{\hspace{2cm}}$

c. $\sqrt{120} = \underline{\hspace{2cm}}$

d. $\sqrt{72} = \underline{\hspace{2cm}}$

2. Area formulas / Pythagorean Theorem

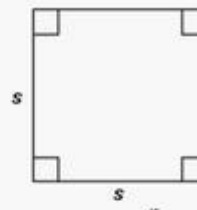
a. Find the area of the circle.



Geometric Figures

Square

Area = s^2
Perimeter = $4s$



Rectangle

Area = lw
Perimeter = $2l + 2w$



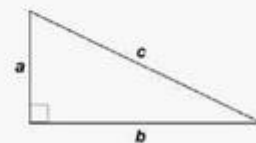
Triangle

Area = $\frac{1}{2}bh$



Right Triangle
Pythagorean
formula:

$c^2 = a^2 + b^2$

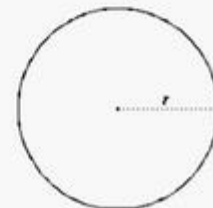


Circle

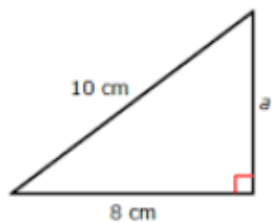
Area = πr^2

Circumference = $2\pi r$

Diameter = $2r$



b.



What is the length of the missing leg?

3. Solve equations with fractions.

a. $\frac{12}{7} = \frac{k}{8}$

b. $\frac{3}{4} (x + 3) = 9$

c. $\frac{4+m}{3} = \frac{5}{6}$

d. $\frac{5}{9}c - \frac{3}{4} = \frac{7}{9}c$

4. Solve literal equations.

a. Solve for r.

$$A = \pi r^2$$

b. Solve for r.

$$V = \frac{1}{3} \pi r^3$$

5. Factor and solve.

a. $x^2 - 7x + 12 = 0$

b. $2z^2 + 9z = -3$

6. Solve by completing the square.

a. $x^2 - 18x = -72$

b. $x^2 + 2x + 8 = 0$

7. Write the equation of a line in slope-intercept form of the line that is perpendicular to $y = -\frac{1}{5}x + \frac{1}{4}$ that passes through the point $(3, 4)$.

8. Write the equation of a line in slope-intercept form of the line that is parallel to $y = -\frac{1}{2}x - 1$ that passes through the point $(-4, -1)$.