Summer Packet for Students entering Geometry CP 322   Due: Friday August 23, 2024

Name: _____

This packet contains topics that you have learned in previous courses that are most important to know for this class. Please read the directions and **show your work** for each problem.
Then write your answers on the answer sheet

I. Use <u>Order of Operations</u> to simplify each expression.

    1. $16 - 2(4 + 1) + 5$ 2. $(2 + 3)^2 + (6 - (-3))^2$

II. Write the answer:

    1. $(-3)(-4) = $ _____   2. $5 - 18 = $ _____

    3. $\dfrac{3}{-9} = $ _____   4. $-24 + 17 = $ _____

    5. $-2(5x - 8) = $ _____   6. $-8 - (-1) = $ _____

III. <u>Solve the equation for x</u>. Remember to show your work!

    1. $6x + 30 = 18$ 2. $2x + 5 = 6x - 23$

    3. $3(x - 12) = -24$ 4. $5 + \dfrac{2}{3}(x+1) = 7$

IV. <u>Factor</u>

    1. $6x + 10$ 2. $x^2 - 9$

    3. $x^2 - 10x + 21$ 4. $6x^2 + 11x - 10$

V. Factor and solve each quadratic equation. Remember to show your work!

    1. $x^2 + 6x + 8 = 0$ 2. $x^2 - 5x = 24$

VI. Simplify the radical. <u>Write the answer as a reduce radical.</u>

    1. $\sqrt{36}$ 2. $\sqrt{100}$

    3. $\sqrt{8}$ 4. $\sqrt{27}$
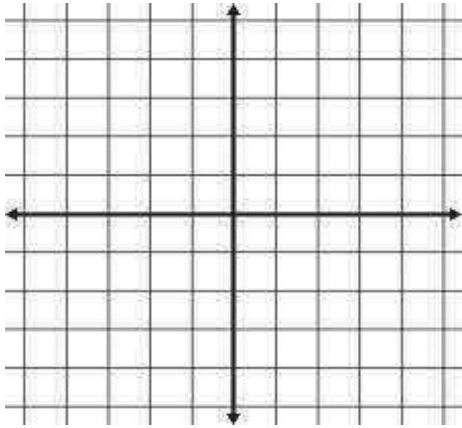
    5. $5\sqrt{12}$ 6. $4\sqrt{18}$

VII. Plot and label (using the letter) each ordered pair on the graph:

A (1, -3)   B (-2, 5)   C (0, 4)   D (-3, 0)

VIII   Distance and Midpoint

1. Use the distance formula to find the distance between the points: A (1, 10) and B (9, 4)

$$D = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

2. Use the midpoint formula to find the coordinate of the midpoint between the points:
A (1, 10) and B (9, 4)

$$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

IX. Find the slope and y-intercept:

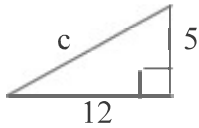   1. $2y = 6x - 2$ 2. $3x + 4y = 1$
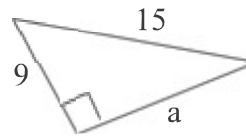
       Slope = _____   y-intercept = _____   slope = _____   y-intercept = _____

X. Use the Pythagorean Theorem to find the missing side length.

   1.

    c   5

      12

   2.   15

  9   a

XI. A team either won or lost each game in its 45 game season. If the team won 27 games, write the <u>reduced ratio</u> of wins to losses.

Name: _____

I   Use Order of operations to simplify each expression

1. _____

2. _____

II. Write the answer

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

III. Solve the equation for x

1. _____

2. _____

3. _____

4. _____

IV. Factor

1. _____

2. _____

3. _____

4. _____

V. Factor and solve each quadratic equation

    1. _____

    2. _____

VI. Simplify the radical

    1. _____

    2. _____

    3. _____

    4. _____

    5. _____

    6. _____

VII. Plot and Label – DO THE WORK ON THE GRAPH

VIII. Distance and midpoint

    1. _____

    2. _____

IX. Find the slope and y-intercept

    1. Slope = _____   y-intercept = _____

    2. Slope = _____   y-intercept = _____

X. Use the Pythagorean Theorem

    1. _____

    2. _____

XI. Ratio word problem

    1. _____