Summer Packet for Students entering Geometry CP 322 Due: Friday September 1, 2023

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. $\frac{3}{-9} =$ _____
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. $5 + \frac{2}{3}(x+1) = 7$

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. $4\sqrt{18}$

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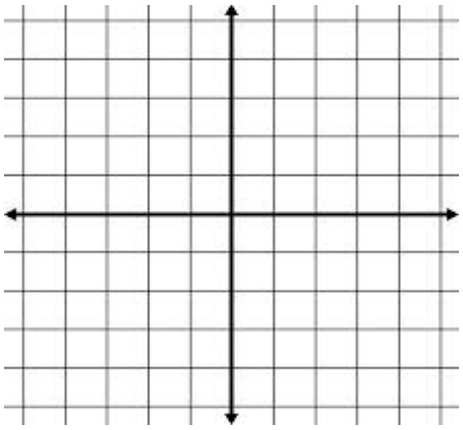
VII. <u>Plot and label</u> (using the letter) each ordered pair on the graph:

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. $2y = 6x - 2$

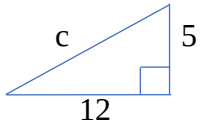
Slope = _____ y-intercept = _____

2. $3x + 4y = 1$

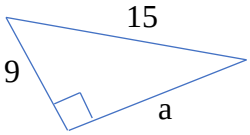
slope = _____ y-intercept = _____

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

1.



2.



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.

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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. _____