

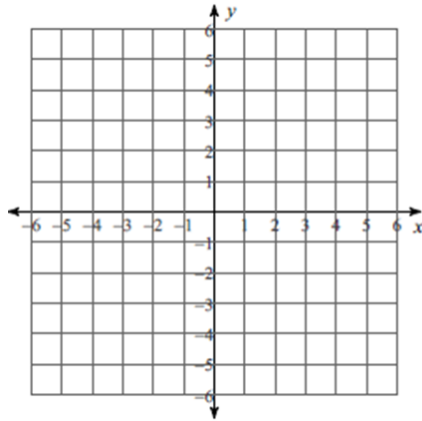
This packet is to help you review topics that are considered to be prerequisite knowledge upon entering Honors Geometry. In order to ensure that the good skills you developed this year in your Algebra 1 course do not disappear this summer, working on this packet is a requirement to be completed over the summer. It is **NOT** recommended to complete immediately following school dismissal in June or the night before the packet is due. Student learning is most effective if the packet is completed over the months of July and August. Honors Geometry students will be tested on the materials covered in this packet within the first few weeks of school once the teacher has discussed the packet in the classroom.

I. Linear Equations: Solve the following equations for unknown variable. Be sure to show all your work.

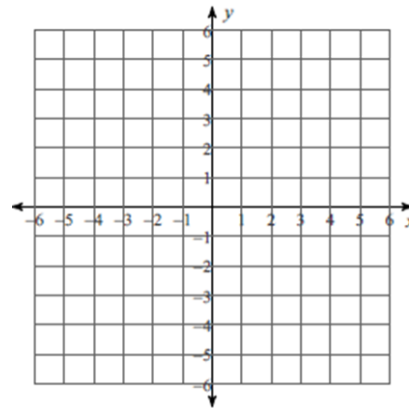
A) $2(x + 5) = 3(x - 2)$	B) $180 - x = 3(90 - x)$
C) $x(x - 4) + (x - 3)^2$	D) $3x(x - 1) = (3x + 2)(x - 1)$
E) $-6(n - 6) - 3(n - 4) = 21$	F) $3 - 3p = -7p + 7$
G) $38 + 8r = -8(6 - 6r) + 3r$	H) $\frac{1}{3}x + \frac{1}{5} = \frac{1}{5}x - 1$

II. Graphing Linear Functions:

A) Sketch the graph of $y = \frac{1}{3}x - 4$



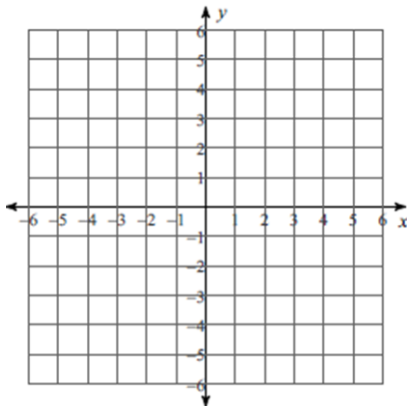
B) Using Slope Intercept Form sketch the graph of $3x - y = 5$



$m =$ _____

$b =$ _____

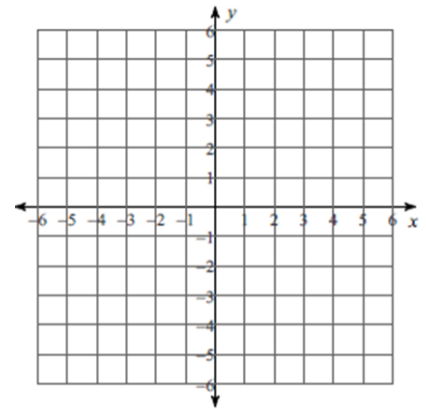
C) Using Slope Intercept Form sketch the graph of $6x + 5y = 5$



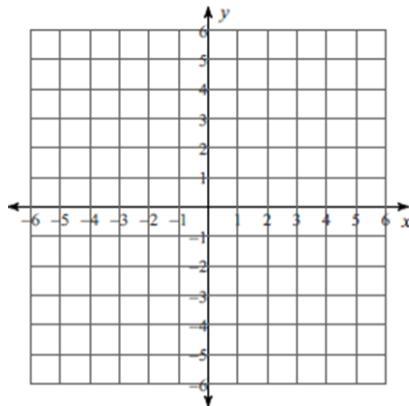
$m =$ _____

$b =$ _____

D) Sketch the graph of the line $x = 2$ and describe its slope.



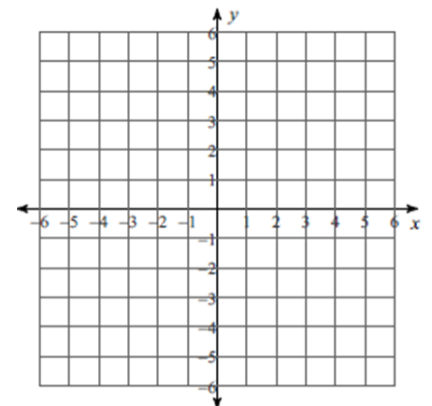
E) Sketch the graph of the line $y = -3$ and describe its slope.



F) Using Slope Intercept Form sketch the graph of both lines and describe their relationship.

$$y = \frac{-1}{2}x$$

$$-2y = x + 10$$



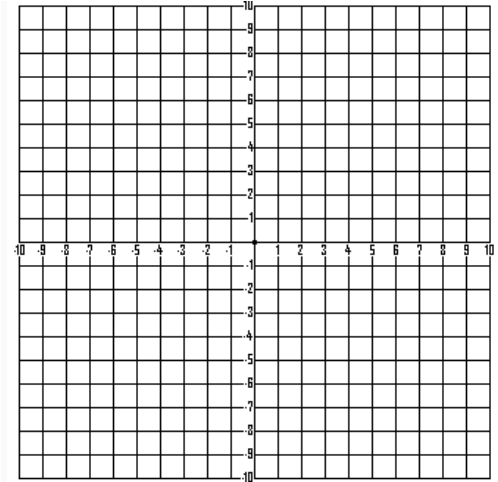
III. Writing Linear Equations: Write the equation of the line in the form stated using the following description. Be sure to graph the line as well.

State the 3 forms of a Line:

1. Slope Intercept: _____ 2. Standard Form: _____ 3. Point Slope: _____

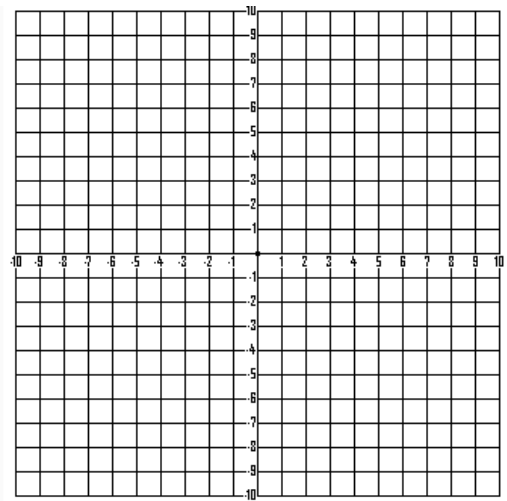
A) A line with a slope of 3 and contains the point $(2, -1)$

Standard Form: _____



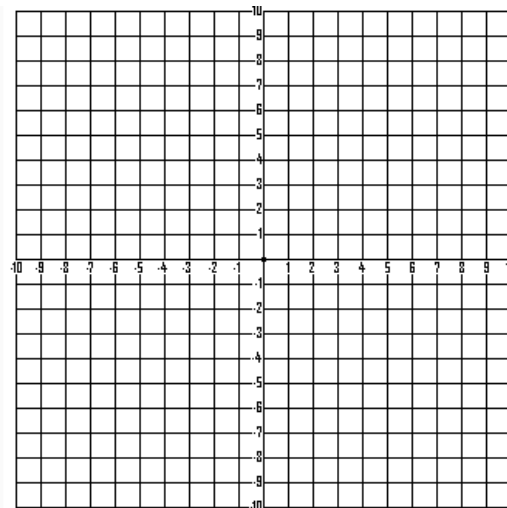
B) The line contains the points $(4, 2)$ and $(-6, 12)$

Slope Intercept Form: _____



C) The line perpendicular to $y = \frac{-1}{2}x - 7$ and contains $(1, 4)$

Point Slope Form: _____



IV. Proportions: Solve the following proportions. Show all your work.

A) $\frac{5}{3x} = \frac{1}{15}$	B) $\frac{x-2}{4} = \frac{x+10}{10}$
C) $\frac{2}{x-3} = \frac{6}{x-2}$	D) $\frac{10}{6x+7} = \frac{6}{2x+9}$

V. Exponent Properties: Simplify each expression using properties of exponents. **NO NEGATIVES in FINAL ANSWERS!!**

A) $4x^4y^5 \cdot -5x^2y$	B) $3x^7y^2 \cdot 9x^{12}y^4$
C) $(-6x^3y^2)^2$	D) $\frac{12p^7q^6}{18p^4q^{12}}$
E) $x^3x^5x^{-11}$	F) $(2u^{-2})^3$
G) $\frac{5p^{10}q^2}{15p^4q^8}$	H) $(-5x^{-5}w^7)^3$

VI. Factor Completely:

A) $x^2 + 8x + 15$	B) $x^2 - 13x + 36$
C) $10r^2 - 35r$	D) $x^2 + 4x - 32$
E) $3y^2 + 2y - 4$	F) $5x^2 - 19x - 4$
G) $p^2 - 64$	H) $100x^2 - 49$

VII. Solve by Factoring: Solve for x by factoring.

A) $x^2 - 13x - 30 = 0$	B) $2x^2 + 5x = 3$
C) $4x^2 - 9x + 2 = 0$	D) $6x^2 = 24$

VIII. Solve the System of Equations:

A) Solve by ELIMINATION METHOD: $-3x + y = 5$ $5x - y = -11$	B) Solve by ELIMINATION METHOD: $x - 2y = -18$ $3x + 5y = 1$
C) Solve by SUBSTITUTION METHOD: $y = -4x - 11$ $3x + 7y = -2$	D) Solve by SUBSTITUTION METHOD: $-2x - 5y = -5$ $x - 5y = -20$

IX. Solve Using System of Equations:

Abby filled her goodie bags with 4 cookies and 3 candy bars and spent a total of \$10.25 per bag. Marissa filled her goodie bags with 2 cookies and 7 candy bars and spent a total of \$14.75 per bag. Each cookie costs the same amount. Each candy bar costs the same amount. Write a system of linear equations that can be used to find the cost of one cookie (x) and one candy bar (y). What was the cost, in dollars, of each candy bar?