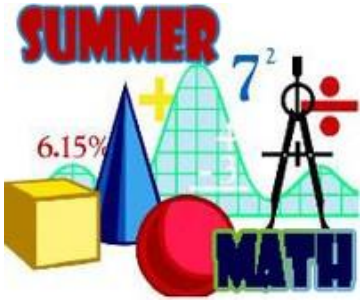
Name_____



Summer Work for Students Entering Algebra II Fall 2018

Complete the attached work

- ALL WORK IS TO BE COMPLETED **WITHOUT** THE USE OF A CALCULATOR
- Answers will be distributed the first day of school so you can check your work and seek help as necessary.
- This work will be collected within the first two weeks of school.
- Credit will be given for completion of the packet. **All work must be shown** to receive credit. Work must be neat and legible.
- An assessment will be given when the work is collected to ensure that you reviewed the concepts and completed the work.

Additional Resource - Khan Academy:

https://www.khanacademy.org/ tutorial website with videos and extra practice.
You do not need to create a Khan account to use the site. To use Khan Academy:

a. Enter the url above

b. Click on "subjects" in the upper left corner

c. Select "Math" and "Algebra I"

d. Enter the title of what you need help with on the site's search tool. (Use the heading of each section for possible search terms)

e. Anything that shows up with a "play" button (▶) is a video and will give you a brief lesson on the material.

f. All other items are practice in case you would like to try some on your own (the site lets you know if you are right or not)

g. If you need an explanation of a specific problem, you can click on, "Watch a video or use a hint" located under the problem.

Note: A graphing calculator is a necessity for Algebra II. If you do not already have a graphing calculator, consider purchasing the **TI-84 Plus CE** and **save the "points" to turn in to your teacher in September.** Many stores have the **TI-84 Plus CE** graphing calculator on sale in August. The sales often end before school starts…

ALL WORK IS TO BE COMPLETED WITHOUT THE USE OF A CALCULATOR

Solving Multistep Equations

1. **Solve each equation.**

   a. $6(t + 5) = -36$

   b. $8j - 5 + j = 67$

   c. $3r - 8 = -32$

   d. $8g - 10g = 4$

   e. $\frac{7}{12}x = \frac{3}{14}$

   f. $-3(5 - t) = 18$

2. **Solve each equation. If the equation is an identity, write *identity*. If it has no solution, write *no solution*.**

   a. $2(3x - 6) = 3(2x - 4)$

   b. $6p + 1 = 3(2p + 1)$

   c. $3(g - 1) + 7 = 3g + 4$

   d. $17 - 20q = (-13 - 5q)4$

3. **Solve each equation for y. (Rewriting Equations in Terms y)**

a. $y + 3x = 8$ b. $x = 9 - 3y$ c. $4x - 2y = 15$

Domain and Range of a Relation

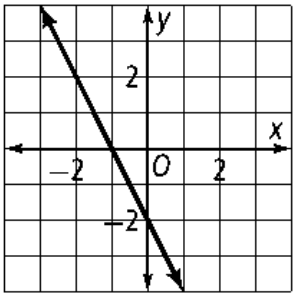
1. **Find the range of each function when the domain is {–4, –1, 0, 3}.**

a. $y = 6x - 5$ b. $y = |x| - 2$ c. $y = -x^2 - x$

Slope

1. Find the slope of each line.

a.



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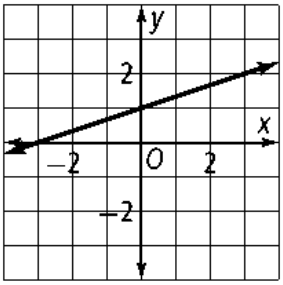
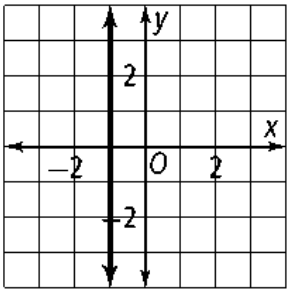
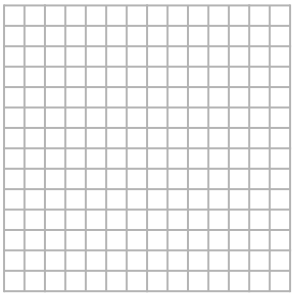
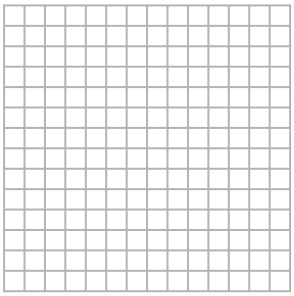
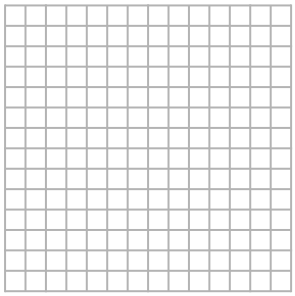


c.



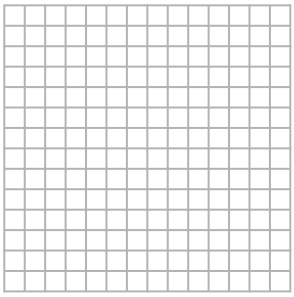
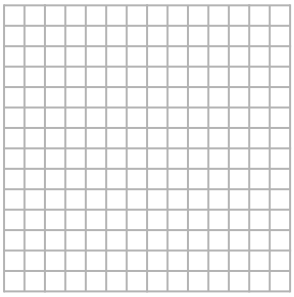
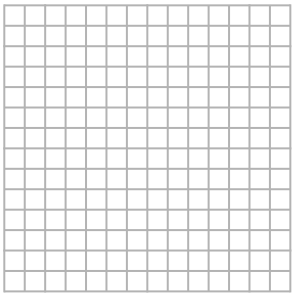
2. Find the slope and *y*-intercept & graph. (convert to Slope-Intercept Form)

a. $y = 6x + 8$ b. $3x + 4y = -24$ c. $2y = 8$

3. Graph each equation.

a. $4x - 3y = 12$ b. $y - 5 = -2(x + 1)$ c. $x + 3 = 0$

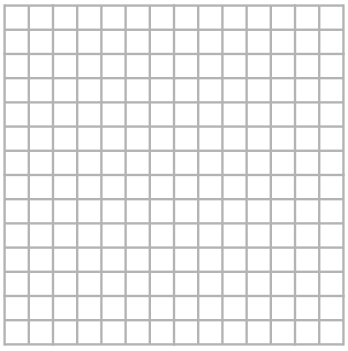




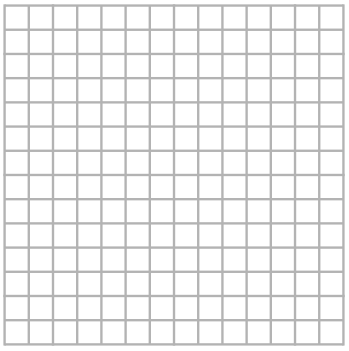
Systems of Linear Equations

1. **Solve each system by graphing. (Solving Systems of Equations Graphically)**

   a. $x - y = 7$
   $3x + 2y = 6$

   b. $y = 2x + 3$
   $y = -\frac{3}{2}x - 4$





2. **Solve each system algebraically.**

   a. $x + y = 19$
   $x - y = -7$

   b. $x + y = 4$
   $y = 7x + 4$

Exponent Properties

1. **Simplify each expression. Use only positive exponents. (Exponent Properties)**

   a. $(m^7t^{-5})^2$

   b. $5m^5m^{-8}$

   c. $\left(\frac{4x^3}{8x^{-2}}\right)^0$

   d. $(t^6)^3(m)^2$

   e. $(3n^4)^2$

   f. $\frac{(2t^5)^3}{4t^8t^{-1}}$

   g. $\frac{a^2b^{-7}c^4}{a^5b^3c^{-2}}$

   h. $\frac{w^7}{w^{-6}}$

   i. $\left(\frac{c^5c^{-3}}{c^{-4}}\right)^{-2}$

2. **Evaluate each expression for $m = 2$, $t = -3$, $w = 4$, and $z = 0$.(Evaluating Exponential Expressions)**

   a. $w^m \cdot t^m$

   b. $(w^z)^m$

   c. $w^m w^z$

Operations with Polynomials & Factoring

1. **Simplify. Write each answer in standard form. (Adding and Subtracting Polynomials)**

   a. $(5x^3 + 3x^2 - 7x + 10) - (3x^3 - x^2 + 4x - 1)$

   b. $(x^2 + 3x - 2) + (4x^2 - 5x + 2)$

2. **Simplify each product. Write in standard form. (Foil for Multiplying Binomials)**

   a. $(5c + 3)(-c + 2)$

   b. $(3t - 1)(2t + 1)$

c. $(3x + 1)^2$

d. $(5t + 4)^2$

3. Factor Completely.

a. $x^2 - 9$

b. $x^2 - 5x - 14$

c. $2x^2 - 11x + 12$

d. $2x^2 - 10x + 12$