

# GEOMETRY (HONORS)

## SUMMER ASSIGNMENT

NAME: \_\_\_\_\_

HOUR: \_\_\_\_\_

DATE: \_\_\_\_\_

### CONGRATULATIONS!

You are beginning your high school career. I am so proud of you for stepping up to the challenge of taking an honors course. By doing this, I already know that you are self-motivated, hard-working, and dedicated to doing your best. I'm excited to have you in my class next year. Over the summer months, work on this assignment to stay refreshed with the basic mathematical concepts we will start with in August. I expect you to have this assignment complete on the first day of school to turn in for your first grade. I look forward to seeing you in August.

#### Problems will cover the following topics:

- Solving equations • Radicals • Simplifying Expressions •
- Graphing Linear Functions • Slopes • Exponent Rules •

**DIRECTIONS:** Work each problem by hand next to each question. You will only receive credit for the problems that have work shown. **YOU MUST HAVE WORK NEXT TO EVERY QUESTION**, including multiple choice. Circle the best answer for multiple choice questions and **BOX YOUR ANSWERS** for the non multiple choice questions.

**A** Solve the following equations for the variable.

1.  $\frac{3}{z} = \frac{1}{8}$

- a) 24                                      b) 32                                      c) 11                                      d) 5

2.  $\frac{-4}{9} = \frac{7}{x}$

- a) 5.14                                      b) -4                                      c) 15.75                                      d) -15.75

3.  $\frac{f+3}{12} = \frac{7}{2}$

- a) 43.5                                      b) 45                                      c) 39                                      d) 40.5

4.  $-7x - 19 = 23$

- a) 6    b) -6    c) 35    d) 49

5.  $4x + 13 = 25$

- a) 3    b) -3    c) -34    d) 34

6.  $-41 = -3x + 10$

- a) 34    b) 17    c) -48    d) -17

7.  $\frac{n}{2} + 5 = 10$

- a) 10    b) 20    c) 30    d) 15

**B** Find the slope of the line containing each pair of points.

1. (5,0) and (6,8)

2. (4,-3) and (6,-4)

3. (-2,-4) and (-9,-7)

**C Find the slope of each line.**

4.  $y = 7$

5.  $x = -4$

6.  $2x + y = 15$

7.  $x - 2y = 7$

**D Find the equation of the line with the given slope through the given point.  
Write the answer in slope-intercept form.**

8.  $m = 4$ ;  $(3, 2)$

9.  $m = -2$ ;  $(4, 7)$

10.  $m = -\frac{4}{3}$ ;  $(3, -1)$

**E Write the equation of the line in slope-intercept form.**

1 The line containing  $(3, 1)$  and  $(4, 8)$ .

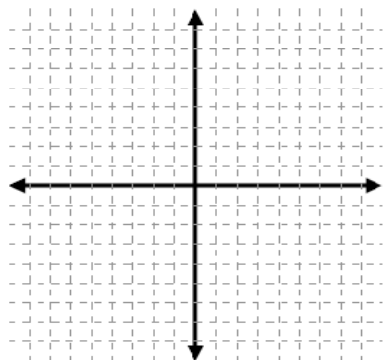
2 The line containing  $(3, 3)$  and  $(-6, 9)$ .

3 The line with slope  $\frac{4}{5}$  and containing  $(-1, 7)$ .

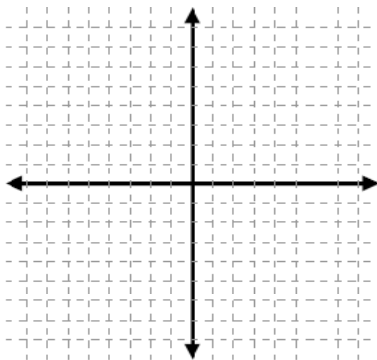
F Graph the following linear functions on the graphs provided.

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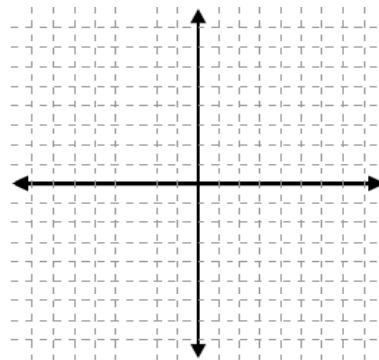
1.  $y = 2x - 3$



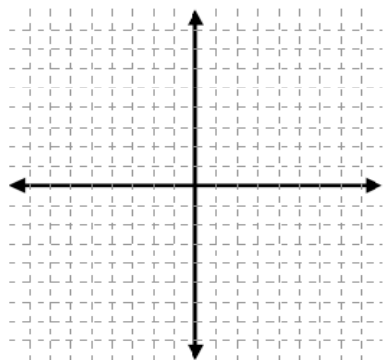
2.  $y = \frac{1}{2}x - 5$



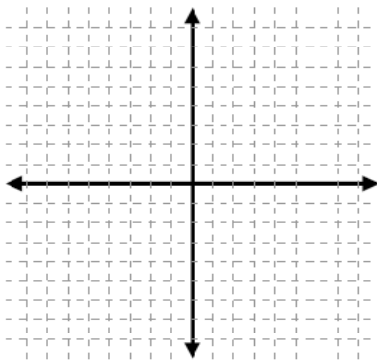
3.  $y = -2x + 3$



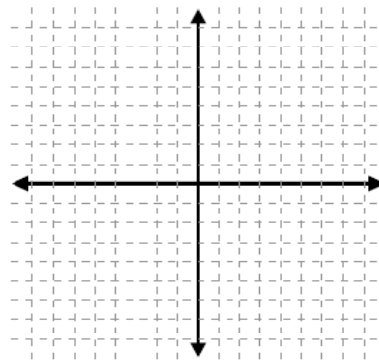
4.  $y = -\frac{2}{3}x + 4$



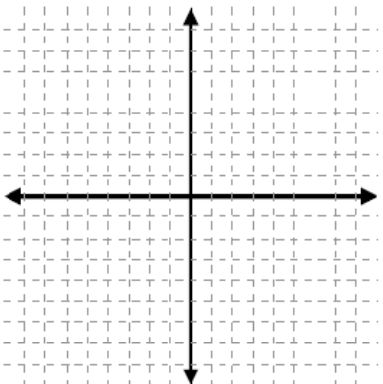
5.  $y = -\frac{5}{2}x + 4$



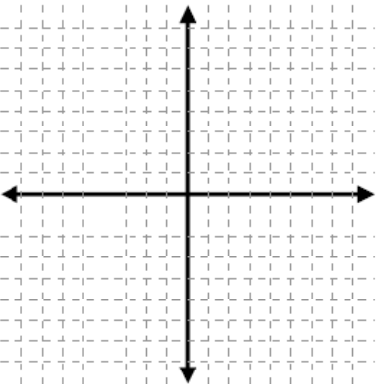
6.  $y = -4x - 1$



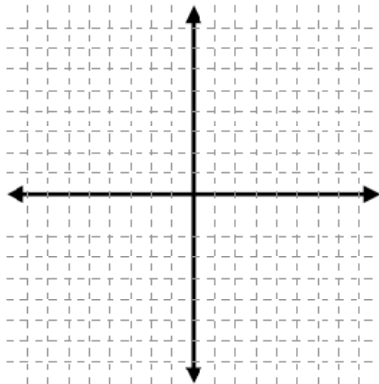
1.  $4x + 2y = 8$



2.  $x - 3y = 6$



3.  $4x + 6y = 12$



**G Simplify each expression using appropriate Order of Operations.**

1.  $1 \cdot 5 - 6 \div 2 + 3^2$

2.  $125 \div [5(2+3)]$

3.  $4 + 2(10 - 4 \cdot 6)$

4.  $3(2+7)^2 \div 5$

5.  $12(20-17) - 3 \cdot 6$

6.  $3^2 \div 3 + 2^2 \cdot 7 - 20 \div 5$

**H Solve for the variable in each problem.**

1.  $5(3x - 2) = 35$

2.  $\frac{1}{3}(6x + 24) - 20 = -\frac{1}{4}(12x - 72)$

3.  $5r - 2(2r + 8) = 16$

**I Simplify each problem using exponent rules**

1.  $x^3 \cdot x^6 = \underline{\hspace{2cm}}$

2.  $c \cdot c^5 \cdot c^2 = \underline{\hspace{2cm}}$

3.  $x^5 \cdot x^6 \cdot x^7 = \underline{\hspace{2cm}}$

4.  $(2a^4)(5a^3) = \underline{\hspace{2cm}}$

5.  $(-2xy^2)(-3x^2y) = \underline{\hspace{2cm}}$

6.  $(3cd^4)(-2c^2)(4cd^2) = \underline{\hspace{2cm}}$