

College Algebra

Name: _____

Study Guide 1

Class: _____

Due Date: _____

Score: _____

No Work \Leftrightarrow No Points

Use Pencil Only \Leftrightarrow Be Neat & Organized

1. Consider a line segment \overline{AB} with endpoints $A(-3, 2)$ and $B(3, -6)$.

(a) (2 points) Find the distance between the two points.

(a) _____

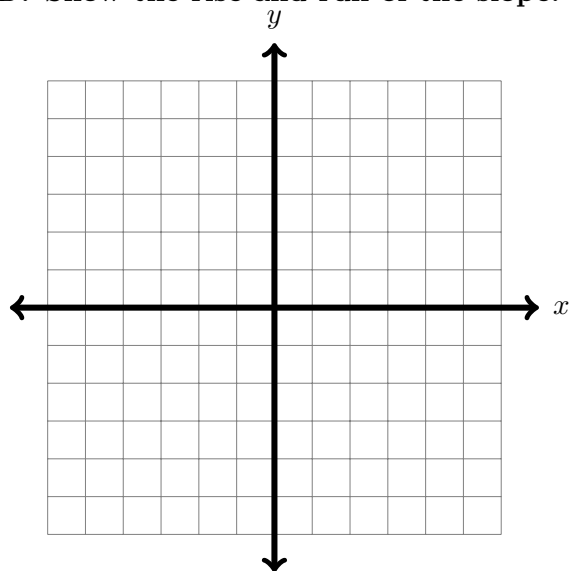
(b) (2 points) Find the midpoint of the line segment \overline{AB} .

(b) _____

(c) (2 points) Find the slope of the line \overleftrightarrow{AB} .

(c) _____

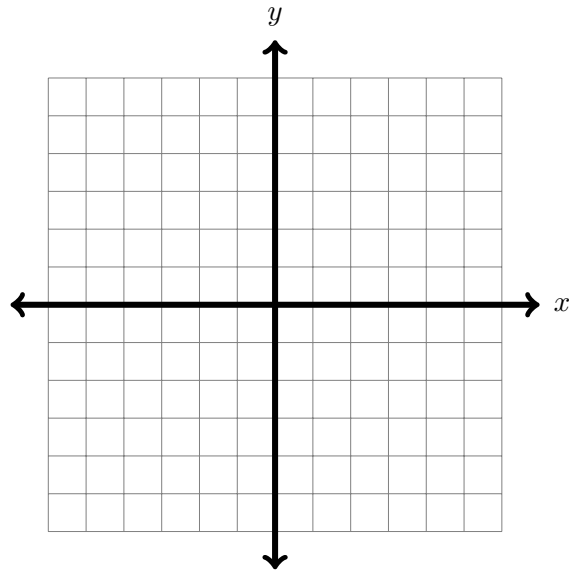
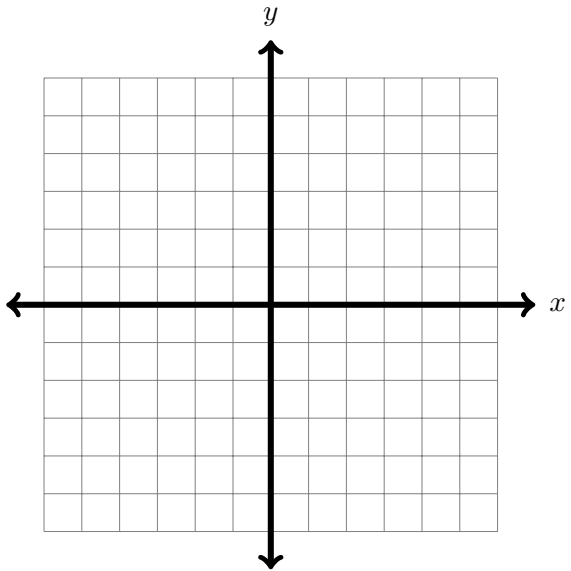
(d) (2 points) Graph the line segment \overline{AB} . Show the rise and run of the slope.



2. (8 points) Graph both linear equations in each system, clearly mark intercepts, rise and run of the slope, or any point used in the graph:

$$\begin{cases} 2x + 5y = 10 \\ 2x + 5y = -10 \end{cases}$$

$$\begin{cases} 3x - 4y = 12 \\ 4x + 3y = -12 \end{cases}$$



3. Consider a line segment \overline{AB} with endpoints $A(-5,1)$ and $B(1,3)$.

(a) (2 points) Find the distance between the two points.

(a) _____

(b) (2 points) Find the midpoint of the line segment \overline{AB} .

(b) _____

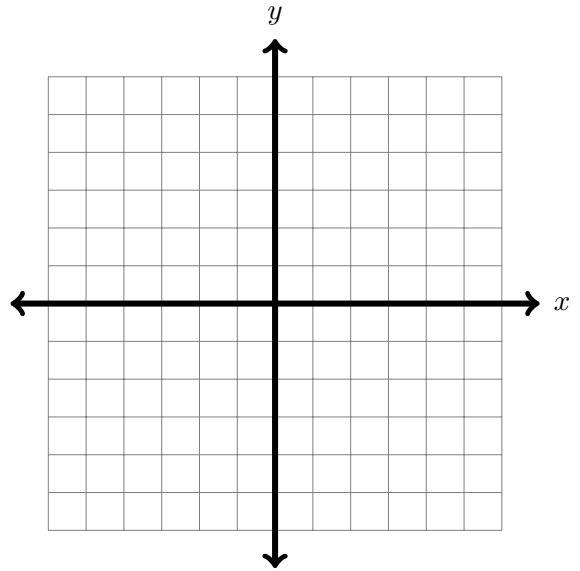
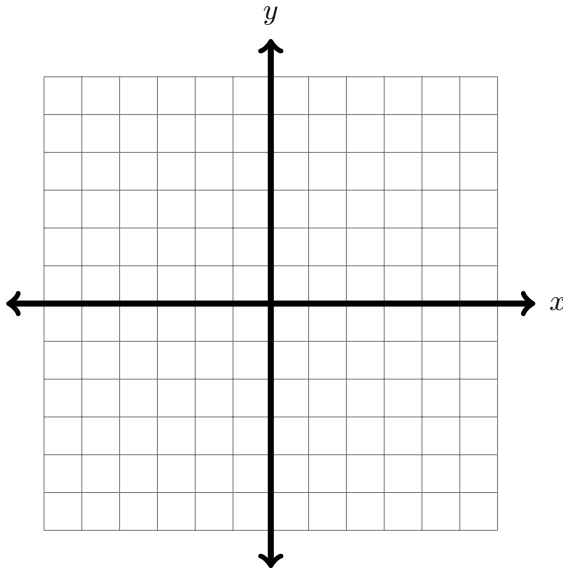
(c) (2 points) Find the slope of the line \overleftrightarrow{AB} .

(c) _____

4. (8 points) Graph both linear equations in each system, clearly mark intercepts, rise and run of the slope, or any point used in the graph:

$$\begin{cases} y = \frac{3}{5}x - 3 \\ y = \frac{3}{5}x + 3 \end{cases}$$

$$\begin{cases} y = \frac{3}{4}x + 2 \\ y = \frac{-4}{3}x - 2 \end{cases}$$



5. Find the slope of line \overleftrightarrow{AB} that contains the points $A(-3, 5)$ and
- (a) (2 points) $B(3, -2)$.

(a) _____

- (b) (2 points) $B(7, 5)$.

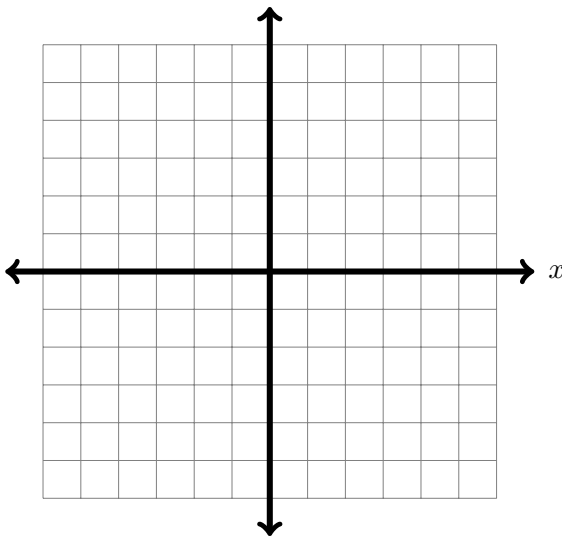
(b) _____

- (c) (2 points) $B(-3, 0)$.

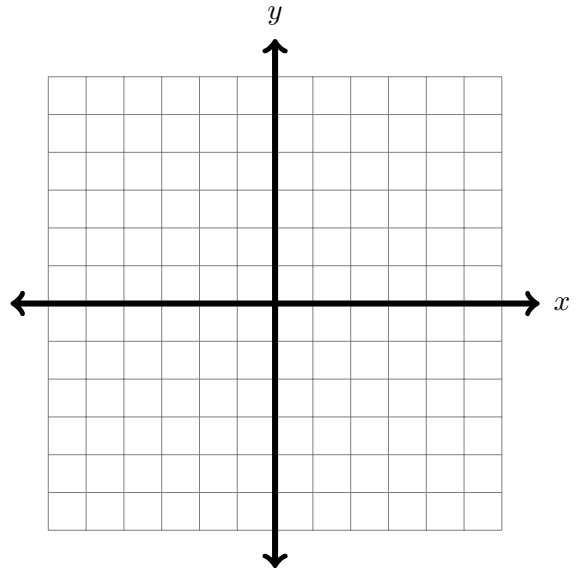
(c) _____

6. (6 points) Graph both linear equations in each system, clearly mark intercepts, rise and run of the slope, or any point used in the graph:

$$\begin{cases} y - 2 = \frac{2}{5}(x + 2) \\ y + 3 = \frac{-5}{2}(x - 1) \end{cases}$$



$$\begin{cases} x = 2 \\ y + 4 = 0 \end{cases}$$



7. Algebra Review Problems:

(a) (2 points) Solve $3(x - 5) + 2 = 7 - 2x$.

(a) _____

(b) (2 points) Simplify $(x^3)^2 \cdot x^4$ by using exponential rules.

(b) _____

(c) (2 points) Solve $-3 < 2x + 1 \leq 7$, then graph the solution.



(d) (2 points) Multiply $(2x^3 - 4)(2x^3 + 4)$ using FOIL method.

(d) _____