Intermediate Algebra	**Name:** _____
Study Guide 1	**Class:** _____
Due Date: _____	**Score:** _____

No Work $\Leftrightarrow$ No Points

Use Pencil Only $\Leftrightarrow$ Be Neat & Organized

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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) _____

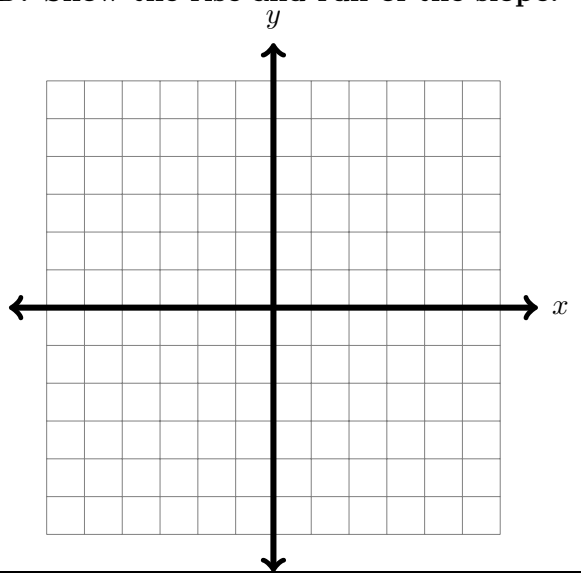
(b) (2 points) Find the midpoint of the line segment $\overline{AB}$.

(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.



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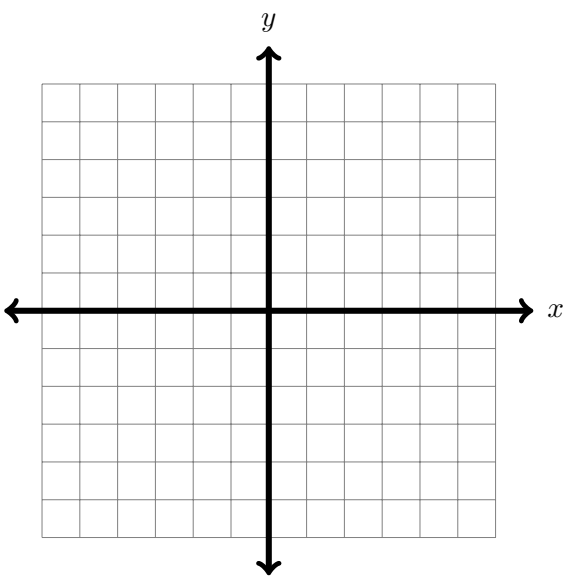
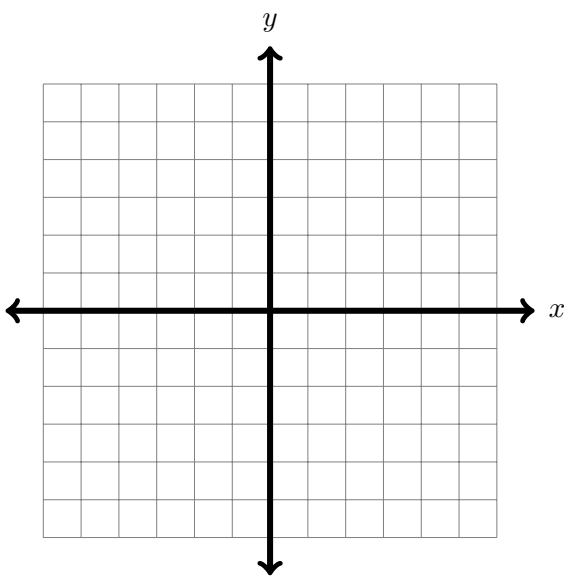
2. (8 points) Graph both linear equations in each system, clearly mark intercepts, rise and run of the slope, or any point used in the graph:

$$\begin{cases} 2x + 5y = 10 \\ 2x + 5y = -10 \end{cases} \qquad \begin{cases} 3x - 4y = 12 \\ 4x + 3y = -12 \end{cases}$$





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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) _____

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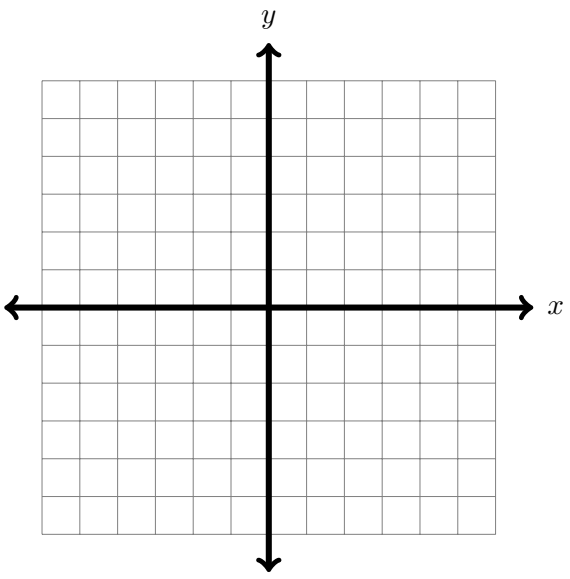
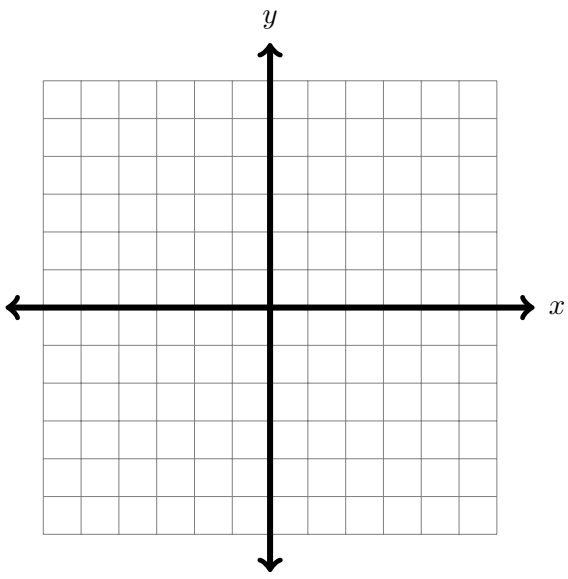
4. (8 points) Graph both linear equations in each system, clearly mark intercepts, rise and run of the slope, or any point used in the graph:

$$\begin{cases} y = \frac{3}{5}x - 3 \\ y = \frac{3}{5}x + 3 \end{cases} \qquad \begin{cases} y = \frac{3}{4}x + 2 \\ y = \frac{-4}{3}x - 2 \end{cases}$$





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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) _____

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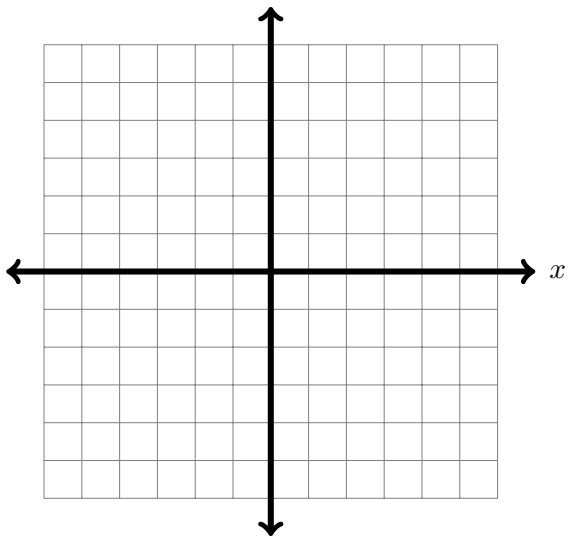
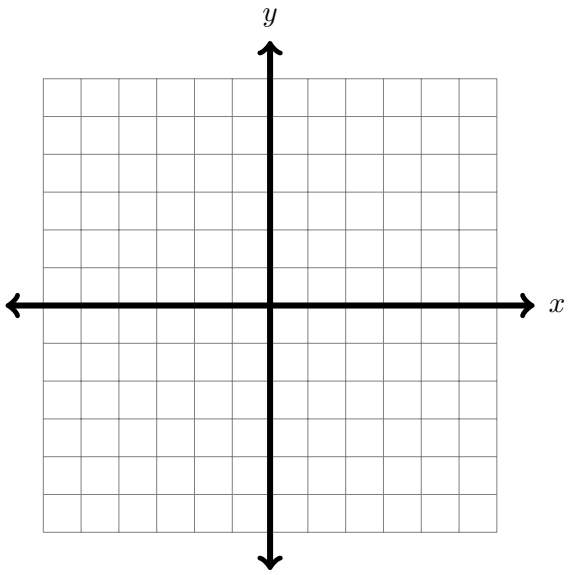
6. (6 points) Graph both linear equations in each system, clearly mark intercepts, rise and run of the slope, or any point used in the graph:

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



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



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7. Beginning Algebra Review Problems:

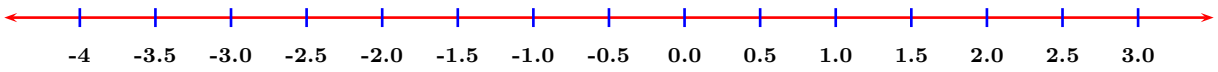
(a) (2 points) Solve $3(x-5)+2 = 7-2x$**.**

(a) _____

(b) (2 points) Simplify $\left(x^3\right)^2 \cdot x^4$ **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) _____
