Algebra 2 Honors Name_____ ID: 1

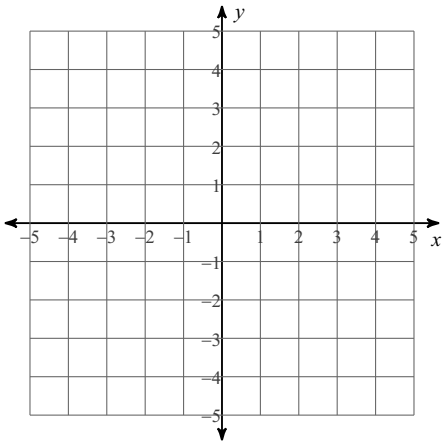
Linear Systems Review

Date_____ Period____

Solve each system by graphing.

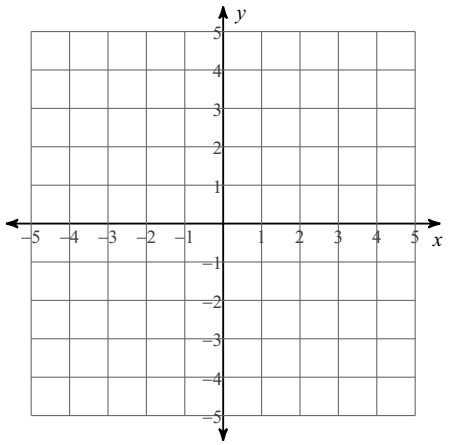
1) $y = -\frac{1}{2}x + 1$

$y = \frac{1}{2}x + 3$



2) $2x + y = 3$

$2x + y = -2$



Solve each system by substitution.

3) $-10x - 2y = 8$

$y = -5x - 1$

4) $-x - 7y = 21$

$y = -3$

5) $-2x - 4y = -18$

$-3x + y = 1$

6) $-3x + 18y = -9$

$x - 6y = 3$

Solve each system by elimination.

7) $-5x + 2y = 2$

$5x - 2y = -3$

8) $4x - 3y = -1$

$-x - 6y = 7$

9) $3x + 3y = 12$

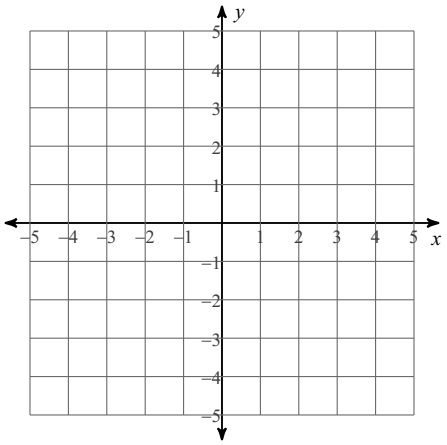
$-4x + 2y = 2$

10) $3x + 6y = 3$

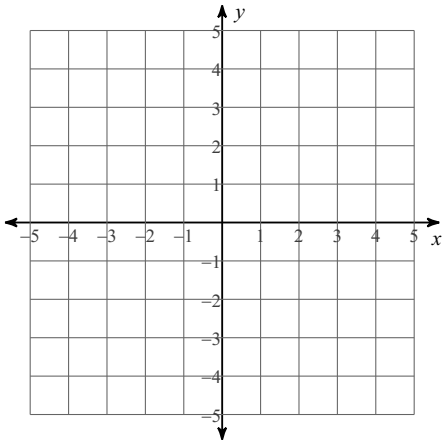
$-2x - 4y = -2$

Sketch the solution to each system of inequalities.

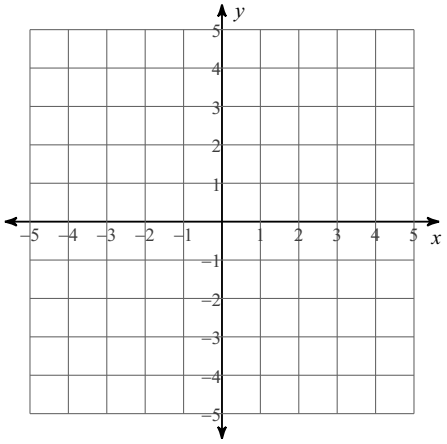
11) $y > 2x + 3$
$y \leq -4x - 3$



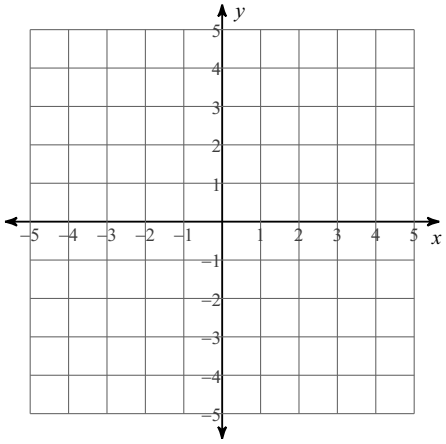
12) $y \geq -\frac{1}{2}x + 2$
$y \leq -\frac{5}{2}x - 2$



13) $y < -2$
$x - y > 3$



14) $4x + y \leq 2$
$y < -2$



Write, but do not solve, a system of equations for each situation.

15) New York City is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 6 vans and 5 buses with 321 students. High School B rented and filled 2 vans and 1 bus with 77 students. Each van and each bus carried the same number of students. Find the number of students in each van and in each bus.

16) An investor buys a total of 360 shares of two stocks. The price of one stock is $35 per share, while the price of the other stock is $45 per share. The investor spends a total of $15000. How many shares of each stock did the investor buy?

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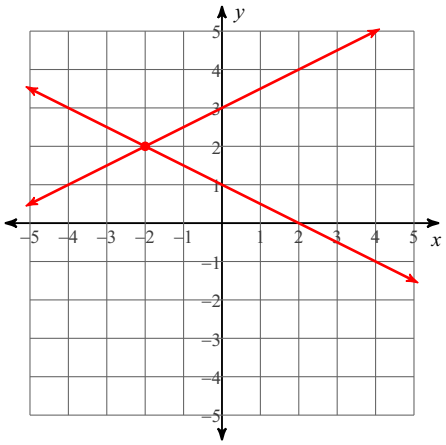

(–2, 2)

2) $2x + y = 3$

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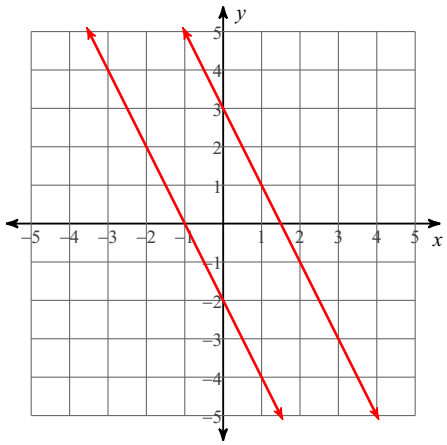

No solution

Solve each system by substitution.

3) $-10x - 2y = 8$

$y = -5x - 1$

No solution

4) $-x - 7y = 21$

$y = -3$

(0, –3)

5) $-2x - 4y = -18$

$-3x + y = 1$

(1, 4)

6) $-3x + 18y = -9$

$x - 6y = 3$

Infinite number of solutions

Solve each system by elimination.

7) $-5x + 2y = 2$

$5x - 2y = -3$

No solution

8) $4x - 3y = -1$

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(–1, –1)

9) $3x + 3y = 12$

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Infinite number of solutions

Sketch the solution to each system of inequalities.

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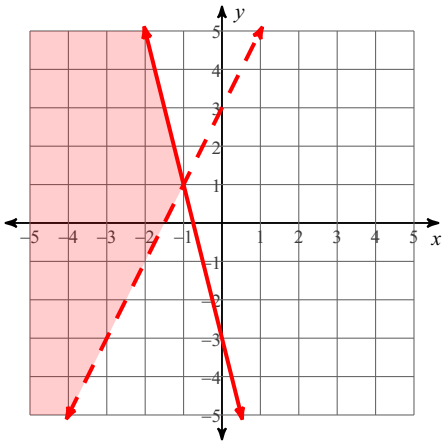

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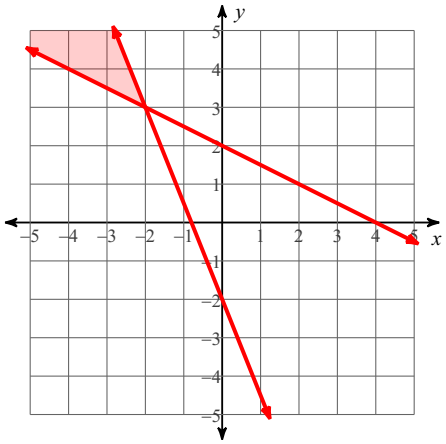

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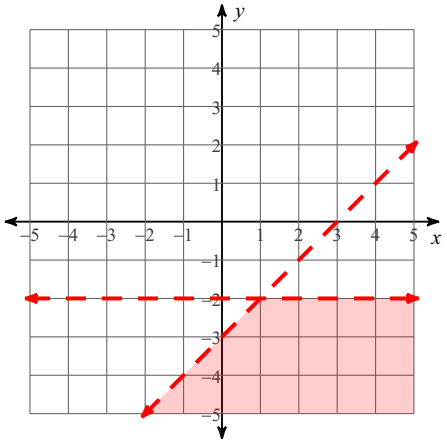

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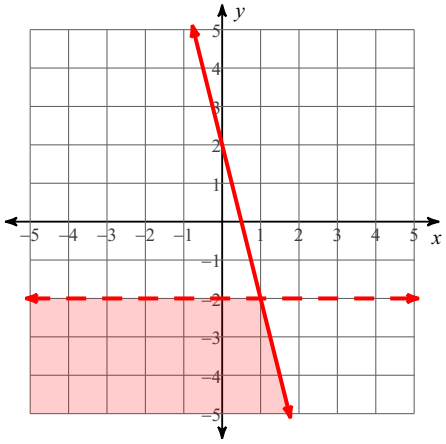

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6v + 5b = 321; 2v + 1b = 77; (Van = 16 and Bus = 45)

16) An investor buys a total of 360 shares of two stocks. The price of one stock is $35 per share, while the price of the other stock is $45 per share. The investor spends a total of $15000. How many shares of each stock did the investor buy?

x + y = 360; 35x + 45y = 15000