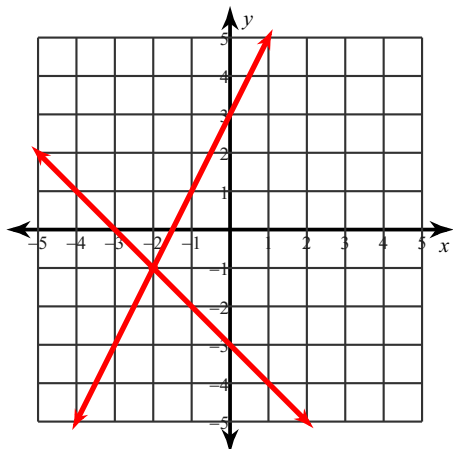


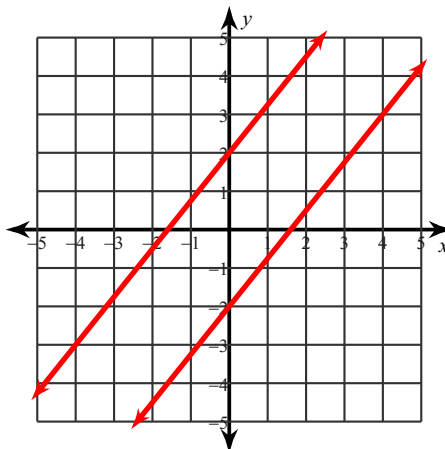
Graphing Systems: Equations - be sure to label both lines, the solution and state the solution!

1) $y = 2x + 3$
 $y = -x - 3$



$(-2, -1)$

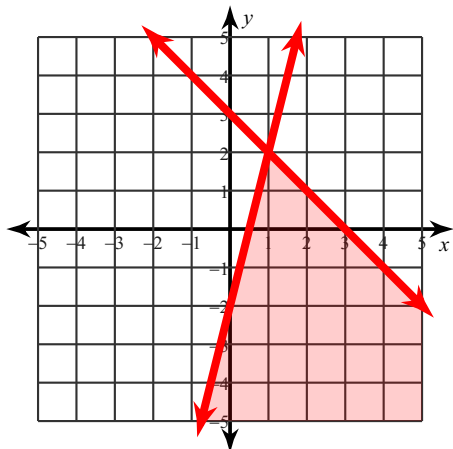
2) $0 = 5x - 4y - 8$
 $5x - 4y = -8$



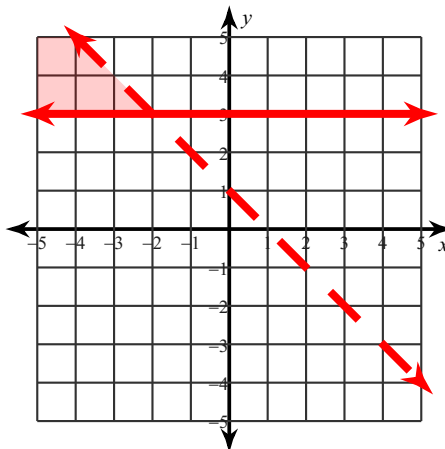
No solution

Graphing Systems: Inequalities - be sure to label both lines, and the solution!

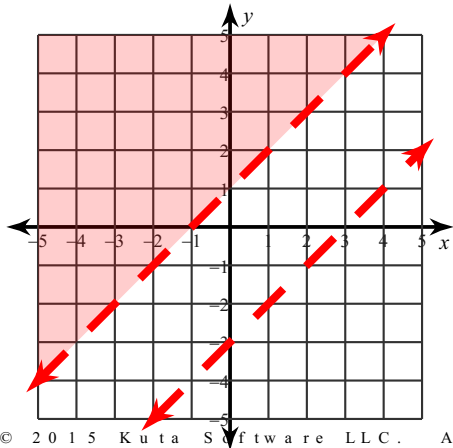
3) $y \leq 4x - 2$
 $y \leq -x + 3$



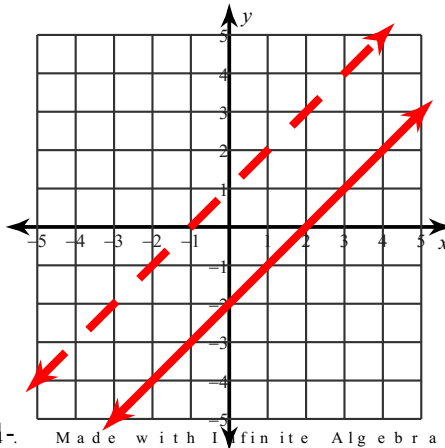
4) $y < -x + 1$
 $y \geq 3$



5) $y > x - 3$
 $y > x + 1$



6) $y > x + 1$
 $y \leq x - 2$



Algebraic Solutions: Substitution!

$$\begin{aligned} 7) \quad & -x - 8y = 17 \\ & x - 6y = 11 \end{aligned}$$

$(-1, -2)$

$$\begin{aligned} 8) \quad & -8x - 6y = 8 \\ & 8x + 6y = -5 \end{aligned}$$

No solution

Algebraic Solutions: Elimination

$$\begin{aligned} 9) \quad & x + 10y = -11 \\ & -4x - 10y = -16 \end{aligned}$$

$(9, -2)$

$$\begin{aligned} 10) \quad & 16x - 16y = -16 \\ & -8x + 8y = 8 \end{aligned}$$

Infinite number of solutions

Algebraic Solutions: Any method

$$\begin{aligned} 11) \quad & -3x = -12y - 51 \\ & 8y - 6x = -6 \\ & (-7, -6) \end{aligned}$$

$$\begin{aligned} 12) \quad & 60 = 15y + 6x \\ & -4x + 4 = -8y \\ & (5, 2) \end{aligned}$$

Modeling with Systems: Be sure to define variables, write the system, solve algebraically and state the solution in a full sentence.

- 13) Going down the river a boat went 54 km/h. Going up the river it only went 18 km/h. What is the speed of the current? How fast would the boat go if there were no current?

Boat: 36 km/h, Current: 18 km/h

- 14) Find the value of two numbers if their sum is 70 and their difference is 6.

32 and 38

- 15) Brenda and Mofor each improved their yards by planting daylilies and geraniums. They bought their supplies from the same store. Brenda spent \$35 on 5 daylilies and 4 geraniums. Mofor spent \$8 on 1 daylily and 1 geranium. What is the cost of one daylily and the cost of one geranium?

daylily: \$3, geranium: \$5

- 16) The school that Rob goes to is selling tickets to the annual dance competition. On the first day of ticket sales the school sold 13 adult tickets and 6 child tickets for a total of \$206. The school took in \$110 on the second day by selling 7 adult tickets and 3 child tickets. Find the price of an adult ticket and the price of a child ticket.

adult ticket: \$14, child ticket: \$4

- 17) A boat traveled 192 miles downstream and back. The trip downstream took 6 hours. The trip back took 8 hours. What is the speed of the boat in still water? What is the speed of the current?

boat: 28 mph, current: 4 mph