

Algebra 1: Ch 5 Study Guide

This worksheet is only meant to serve as a study aide. Your chapter exam will be based on all of the homework, notes, and material covered in class.

Ch 5 Vocabulary from the notes

Ch 5.1/5.5: Solving Equations and Systems of Linear Equations by Graphing

1. Tell whether the ordered pair is a solution of the system of linear equations.

a) $(2, 5)$; $x + y = 7$
 $2x - 3y = -11$

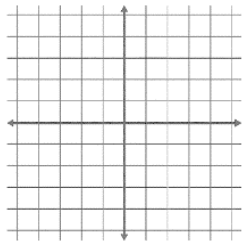
b) $(-1, 3)$; $y = -7x - 4$
 $y = 8x + 5$

c) $(-2, 1)$; $6x + 5y = -7$
 $2x - 4y = -8$

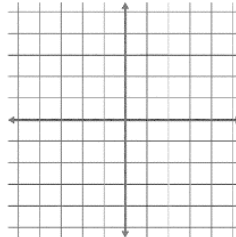
d) $(-1, -5)$; $y = -x + 2$
 $y = 3x - 2$

2. Solve the system of linear equations by graphing.

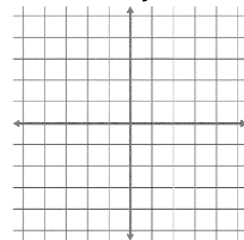
a) $y = -2x + 5$
 $y = 4x - 1$



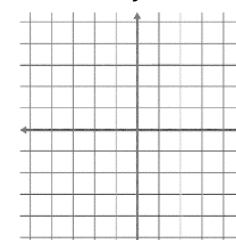
b) $y = -x + 4$
 $y = 2x - 8$



c) $2x - y = -2$
 $2x + 4y = 8$

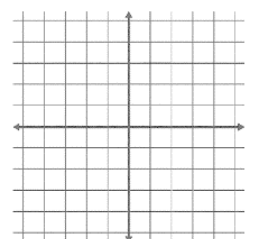
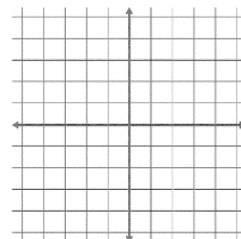


d) $3y + 4x = 3$
 $x + 3y = -6$



3. Solve by graphing. Check your solutions.

a) $|x + 3| = |3x + 1|$



Ch 5.2-5.3: Solving Systems of Linear Equations by Substitution and Elimination

1. Solve the system of linear equations by substitution.

a) $x = 17 - 4y$
 $y = x - 2$

b) $y = -x + 3$
 $3y + 5x = -1$

c) $2x - y = 23$
 $x - 9 = -1$

d) $3x + 2y = 0$
 $y = \frac{1}{2}x - 1$

2. Solve by elimination.

a) $x + 2y = 13$
 $-x + y = 5$

b) $5x + 6y = 50$
 $x - 6y = -26$

c) $-10x + 3y = 1$
 $-5x - 6y = 23$

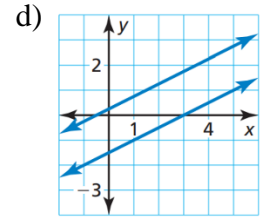
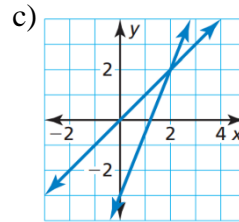
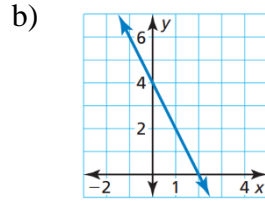
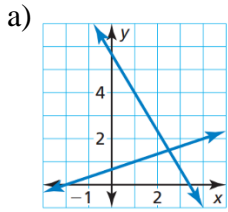
d) $4x - 3y = 8$
 $5x - 2y = -11$

3. There are a total of 64 students in a drama club and a yearbook club. The drama club has 10 more students than the yearbook club.

a) Write a system of linear equations that represents this situation.

Ch 5.4: Solving Special Systems of Linear Equations

1. How many solutions do the following systems of linear equations have?



2. Solve the system of linear equations.

a) $y = 5x - 1$
 $y = 5x + 2$

b) $-2x + y = 3$
 $-4x + 2y = 6$

c) $y = 2x + 8$
 $y = 2x - 5$

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

Ch 5.6: Graphing Linear Inequalities in Two Variables

1. Tell whether the ordered pair is a solution of the inequality.

a) $2x + y < -3$; $(-1, 9)$

b) $x - 3y \geq 8$; $(3, 4)$

c) $3x - y < 2$; $(-2, 2)$

d) $4x - y \geq 5$; $(1, 3)$

e) $x + y > 0$; $(-4, 4)$

f) $4x - y \geq 5$; $(4, 4)$

2. Tell whether the ordered pair is a solution of the inequality whose graph is shown.

a) $(0, -1)$

d) $(1, 5)$

a) $(-1, 1)$

d) $(1, 1)$

b) $(-2, 2)$

e) $(0, 0)$

b) $(-2, 3)$

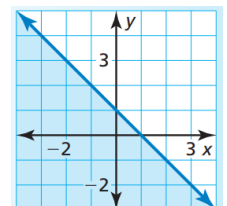
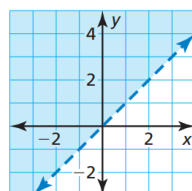
e) $(0, 1)$

c) $(-3, -3)$

f) $(2, 1)$

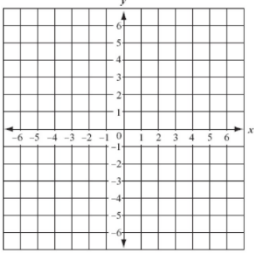
c) $(3, -2)$

f) $(1, 0)$

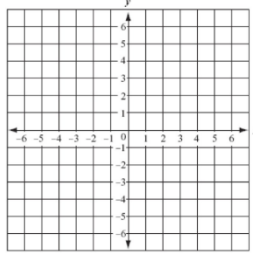


3. Graph.

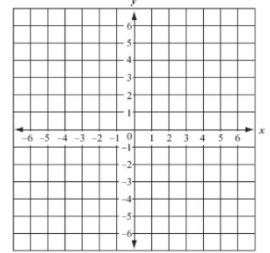
a) $y \geq -1$



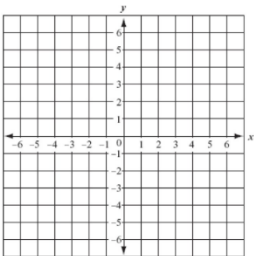
b) $y > -2$



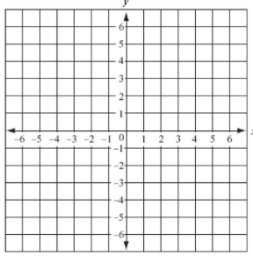
c) $-3 \leq x$



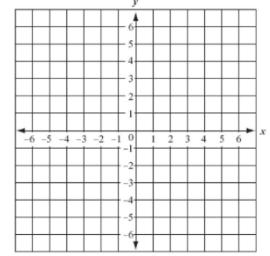
d) $x + y \leq -4$



e) $x - 2y < 0$



f) $3x - y \geq 5$



4. You can spend at most \$12 on red peppers and tomatoes for salsa. Red peppers cost \$4 per pound, and tomatoes cost \$3 per pound.

Write an inequality that represents the amounts of red peppers and tomatoes you can buy.

5. You can spend at most \$9 on potatoes and carrots for stew. Potatoes cost \$3 per pound, and carrots cost \$1.50 per pound.

Write an inequality that represents the amounts of potatoes and carrots you can buy.

Ch 5.7: Systems of Linear Inequalities

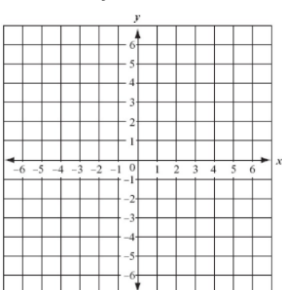
1. Tell whether each ordered pair is a solution of the system of linear inequalities.

a) $y < 2x$
 $y \geq x + 1$; (3, 5)

b) $y < 5x$
 $y \geq -x + 1$; (-2, 0)

2. Graph.

a) $y \geq -x + 4$
 $x + y \leq 0$



b) $y > 2x - 3$
 $y \geq \frac{1}{2}x + 1$

