

Name: _____

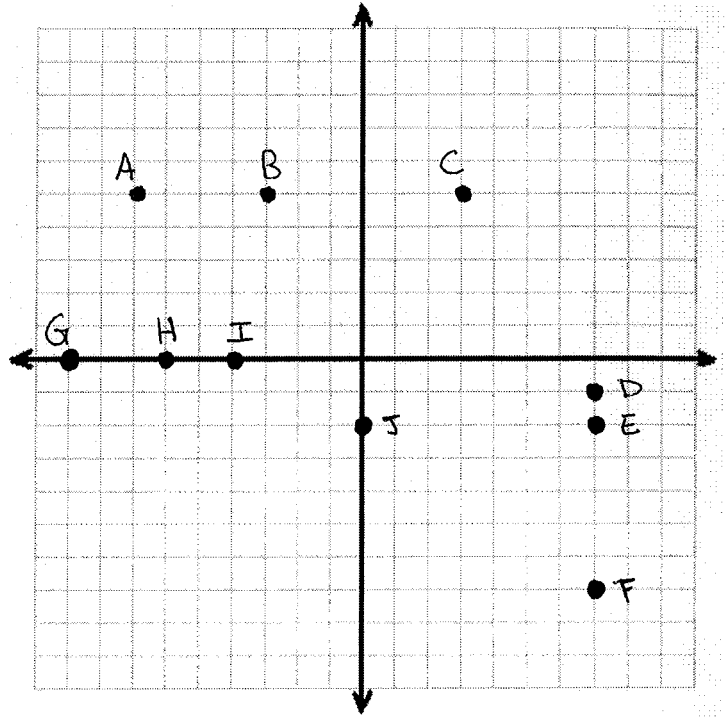
Algebra Ch. 5

Algebra 5-1: Horizontal and Vertical Lines

Warm-Up

Find the coordinates of the following points.

1. Point A _____
2. Point B _____
3. Point C _____
4. Point D _____
5. Point E _____
6. Point F _____
7. Point G _____
8. Point H _____
9. Point I _____
10. Point J _____



Algebra 5-1: Horizontal and Vertical Lines

Vocab	Definition	Example
Horizontal		
Vertical		

An equation in the form $y = \underline{\hspace{2cm}}$ forms a $\underline{\hspace{2cm}}$ line.

An equation in the form $x = \underline{\hspace{2cm}}$ forms a $\underline{\hspace{2cm}}$ line.

Ways to Remember

A way to remember what $y = 3$ looks like is to think, "It goes through the _____ axis at _____."

A way to remember what $x = 3$ looks like is to think, "It goes through the _____ axis at _____."

Another way to help remember is to make a _____ and _____ the _____.

Examples

For 1-2, write an equation for the line containing the points below.

1. $(-4, 3), (-4, 12)$ & $(-4, -3)$ _____

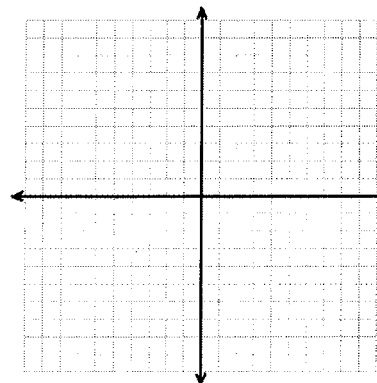
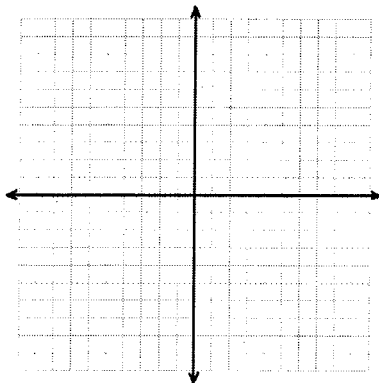
2. $(-3, 1), (-5, 1),$ & $(7, 1)$ _____

3. Write an equation for the horizontal line through $(-10, 7)$. _____

4. Write an equation for the vertical line through $(-10, 7)$. _____

5. Graph $x = -4$.

6. Graph $y = 2$.



7. Charlie received \$8 allowance for each of the first 5 weeks of the year. Imagine that the points $(1, 8), (2, 8),$ & $(3, 8)$ are graphed to represent this situation.

a. What kind of line contains these points, a vertical or horizontal line? _____

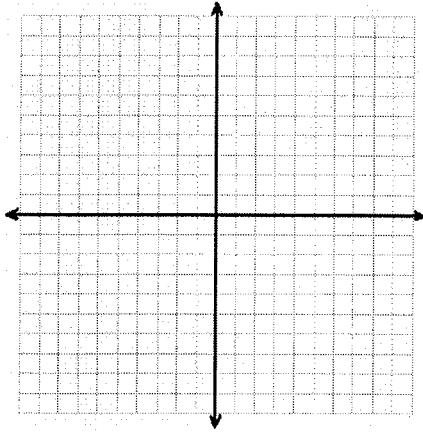
b. What is the equation for this line? _____

Assignment: 5-1 #'s 5-12, 16-24, 6 graphs

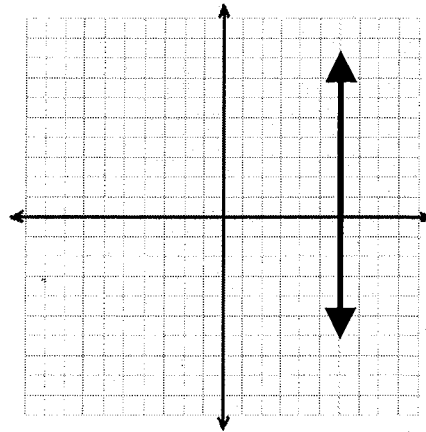
Algebra 5-2: Using Tables

Warm-Up

1. Graph the line $y = -5$



2. Write an equation for the graph below. _____



3. Write an equation for a horizontal line through the point $(3, -6)$ _____

4. Write an equation for a line that contains the points $(-3, 6)$, $(-3, 1)$ and $(-3, -3)$. _____

Algebra 5-2: Using Tables

Vocab	Definition	Example
Table		

Examples

1. Write an expression that represents the following situation.

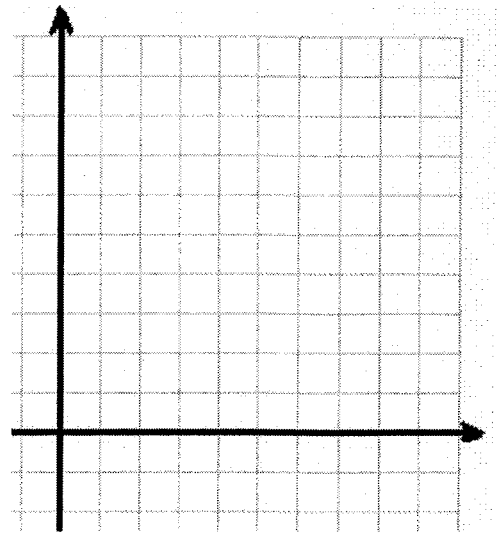
a. Steven starts with \$40 and saves \$8 every week. _____

b. Anglea starts with \$120 and spends \$12 every week. _____

2. Make a table that shows when they will have the same amount of money.

3. Write an **equation** that represents the situation.
 (Hint: start with the expressions from #1)
4. Tony purchased a sofa for \$600 and made a deposit of \$300. He will pay for the rest in monthly payments of \$50.

- a. Graph $y = 600$ on a coordinate plane to show the cost of the sofa.
- b. Write an equation to represent the amount, y he has paid after x months.
- _____
- c. Graph your equation from part b on the same grid as part a.
- d. Use the graph to determine when Tony will have completed his payments on his sofa.
- e. Check your answer by solving an **equation**.



5. You are buying a cell phone and plan. You want to know which is the better deal. Fill in the table to help you figure out the better plan.

Plan A- Phone is \$75 and you pay \$50/month
 Plan B- Phone is \$100 and you pay \$45/month

X = _____

Y = _____

Which is the better deal and when?

X	Y ₁ Plan A	Y ₂ Plan B

Algebra 5-3/5-6 Solving Equations & Inequalities

Warm-Up

Dani has \$100 and saves \$10 per week.

Eric has \$70 and saves \$15 per week.

Fill in the table to the right and answer the following questions.

1. Who has more money after 3 weeks? _____

2. Who has more money after 2 months (assume 4 weeks in one month)? _____

3. When will they have the same amount of money? _____

Weeks	Dani \$	Eric \$
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		

Algebra 5-3/5-6 Solving Equations & Inequalities

1. $6 - 9x = 5x - 1$

4. $6 - 9x \geq 5x - 1$

2. $u + 19 = 3u - 1$

5. $u + 19 > 3u - 1$

3. $-x = 10 + 4x$

6. $-x < 10 + 4x$

7. In a tall office building, elevator A leaves the third floor and ascends at a speed of 2 floors per second. Elevator B leaves the 59th floor at exactly the same moment and descends at a speed of 2 floors per second.
- Write an expression** that represents the location of elevator A.
 - Write an expression** that represents the location of elevator B.
 - Write & solve** an equation to find after how many seconds the elevators will be at the same floor.
8. Three times a number is less than the sum of two times a number and five. Find the number.

Assignment: 5-3 #'s 1, 2, 6-12 Even, 16-22 Even
5-6 #'s 4-15

5-5 Graphing on the Graphing Calculator

The **window** is the range of _____ values and _____ values that we can see on the _____.

Steps to graph on the Graphing Calculator

- Make sure the equation is in $y =$ _____.
 - $-2x = y - 3$
- Push the "y=" button.
- Type in your equation.
- Press the "Graph" button.
- Adjust the window. (Press "Zoom" or "Window" key)

Algebra 5-4 Using Graphs to Compare Linear Expressions

Warm-Up

1. $5x + 1 > 2x + 13$

2. $x + 12 < 2x + 77$

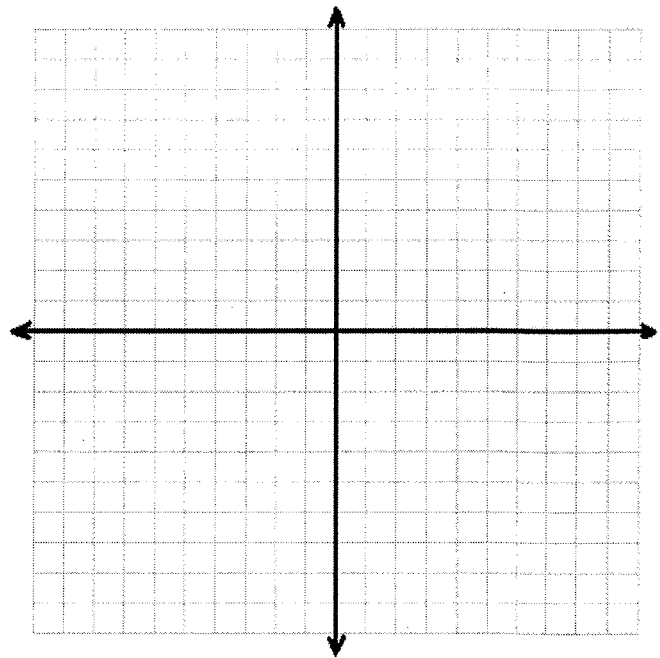
3 Methods to Compare

1. Make a _____
2. Create a _____
3. Solving an _____

Example

1. Bobby has \$150 saved. He spends \$2 everyday on coffee. Molly has \$100 saved. She saves \$3 everyday for doing chores.
Find when Bobby and Molly will have the same amount of money **and** how much they have.

Method 1- Graphing



Method 2- Table

Days	Bobby	Molly
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Method 3- Equations

Bobby has \$150 saved. He spends \$2 everyday on coffee. Molly has \$100 saved. She saves \$3 everyday for doing chores.

Find when Bobby and Molly will have the same amount of money **and** how much they have.

Algebra 5-7/5-8 Equivalent Fractions & Clearing Fractions

Warm-Up

4. Simplify. $\frac{1}{4} \cdot \frac{2}{3}$

5. Simplify. $2 \cdot \frac{3}{8}$

6. What is the common denominator of $\frac{2}{5}$ and $\frac{1}{4}$?

7. What is the common denominator of $\frac{1}{7}$ and $\frac{2}{3}$?

Algebra 5-7 Equivalent Fractions

1. Solve $3d + 4 = e$ for d . (hint: This mean we want to get _____ by itself.)

2. Solve $p = 100 + \frac{a}{2}$ for a .

3. Solve $\frac{s}{y} + t = l \cdot r$ for s .

Algebra 5-8 Clearing Fraction

- In order to get rid of fractions _____ the _____ by a _____.
- In order to get rid of decimals, _____ by multiples of _____.

4. Solve by clearing the fraction. $\frac{2}{5}x + 11 = \frac{3}{4}x$

5. Solve by clearing the fraction. $\frac{1}{4}t = 21 - \frac{1}{3}t$

6. Solve by getting rid of the decimals. $.92m + 2 = m - .4$

Assignment: 5-7 #'s 8-10, 12, 14, 18, 19
5-8 #'s 1, 9-14