

### Unit 0-Review

date assigned	date due	assignment
8-Sep	9-Sep	online notes-order of operations
8-Sep	14-Sep	bring in composition books
9-Sep	10-Sep	order of operations day 1
9-Sep	10-Sep	online notes-distributive property
10-Sep	11-Sep	order of operations day 2
10-Sep	11-Sep	online notes-solving equations variables one side
11-Sep	14-Sep	distributive property and solving equations variables one side
11-Sep	14-Sep	online notes-solving equations variable both sides
14-Sep	15-Sep	solving equations variables both sides
14-Sep	15-Sep	online notes-solving for a specific variable
15-Sep	16-Sep	solving for a specific variable
16-Sep	17-Sep	review week 1
	17-Sep	WEEK 1 QUIZ
17-Sep	18-Sep	online notes-coordinate plane and slope
18-Sep	21-Sep	coordinate plane and slope
18-Sep	21-Sep	online notes-standard and slope-intercept form
21-Sep	22-Sep	standard and slope-intercept day 1
22-Sep	23-Sep	standard and slope-intercept day 2
22-Sep	23-Sep	online notes-graphing lines
23-Sep	24-Sep	graphing lines day 1
24-Sep	25-Sep	graphing lines day 2
25-Sep	28-Sep	review week 2
	28-Sep	WEEK 2 QUIZ



## Order of Operation

I Can...Evaluate expressions using order of operations.

Evaluate algebraic expressions given specific values for the variable.

### Order of Operation:

1. \_\_\_\_\_ expressions inside \_\_\_\_\_.
2. \_\_\_\_\_ all \_\_\_\_\_.
3. \_\_\_\_\_ and/or \_\_\_\_\_ from left to right.
4. \_\_\_\_\_ and/or \_\_\_\_\_ from left to right.

### Examples:

1. Evaluate each expression. SHOW ALL WORK!!!!

a.  $48 \div 2^3 \cdot 3 + 5$

b.  $(8 - 3) \cdot 3(3 + 2)$

c.  $4[12 \div (6 - 2)]^2$

d.  $\frac{2^5 - 6 \cdot 2}{3^3 - 5 \cdot 3 - 2}$

e.  $250 \div [5(3 \cdot 7 + 4)]$

f.  $3^2 \div 3 + 2^2 \cdot 7 - 20 \div 5$

g.  $\frac{2 \cdot 4^2 - 8 \div 2}{(5+2) \cdot 2}$

### How to Evaluate Algebraic Expressions:

Step 1: \_\_\_\_\_ each \_\_\_\_\_ with its \_\_\_\_\_.

Step 2: Use \_\_\_\_\_ of \_\_\_\_\_ to find the \_\_\_\_\_ to the problem.

### Examples:

2. Evaluate the following. **SHOW ALL WORK!!!!**

a.  $2(x^2 + y) - z^2$  if  $x=4$ ,  $y=3$ , and  $z=2$ .

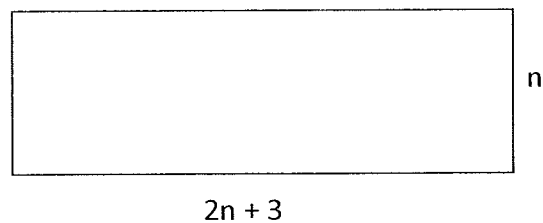
b.  $2a(b^2 \div 3)$  if  $a=4$ ,  $b=6$ , and  $c=8$ .

c.  $x^3 + y + z^2$  if  $x = 6$ ,  $y = 8$  and  $z = 3$ .

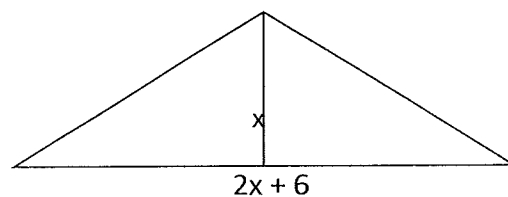
d.  $(x \div z)^2 + xy$  if  $x = 6$ ,  $y = 8$ , and  $z = 3$

e.  $6xz + 5xy$  if  $x = 6$ ,  $y = 8$ , and  $z = 3$

3. Write an algebraic expression to represent the area of the rectangle. Then evaluate it to find the area when  $n = 4$  cm.



4. Write an algebraic expression to represent the area of a triangle. Then evaluate it to find the area when  $x = 5$ .





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## Order of Operations

Evaluate each expression.

1.  $2 \times 3 - 5$

2.  $2 \times (3 - 5)$

3.  $(3 + 7) \times 6$

4.  $13 - 4 + 21 - 24$

5.  $13 - (4 + 21) - 24$

6.  $13 - (4 + 21 - 24)$

7.  $12 \div 3 \times 4 + 8$

8.  $12 \div 3 \times (4 + 8)$

9.  $12 \div (3 \times 4) + 8$

10.  $(12 \div 3 \times 4) + 8$

11.  $2 + 8 \div 4 - 1$

12.  $(2 + 8) \div 4 - 1$

13.  $2 + 8 \div (4 - 1)$

14.  $(2 + 8) \div (4 - 1)$

15.  $3 + 4^2 - 1 + 3^3$

16.  $(3 + 4)^2 - 1 + 3^3$

17.  $3 + 4^2 - (1 + 3)^3$

18.  $(3 + 4)^2 - (1 + 3)^3$

19.  $\frac{3+2^4-1}{3^2-2^2}$

20.  $\frac{3+2^4-1}{(3^2-2)^2}$

21.  $\frac{(3+2)^4-1}{3^2-2^2}$

22.  $\frac{(3+2)^4-1}{(3^2-2)^2}$

23.

x	$3(x^2 - 4) + (10 - x)$
0	
-5	
5	

24.

x	$\frac{2x^2 - 6 + x}{12 - 3x}$
1	
-3	
3	





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## Order of Operations

day 2

Evaluate each expression.

1.  $35 - 3 \times 8$

2.  $18 \div 9 + 2 \times 6$

3.  $10 + 8^3 \div 16$

4.  $24 \div 6 + 2^3 \times 4$

5.  $(11 \times 7) - 9 \times 8$

6.  $29 - 3(9 - 4)$

7.  $(12 - 6) \times 5^2$

8.  $3^5 - (1 + 10^2)$

9.  $108 \div [3(9 + 3^2)]$

10.  $[(6^3 - 9) \div 23]4$

11.  $(3 - 4^2)^2 + 8$

12.  $23 - 2(17 + 3^3)$

13.  $3[4 - 8 + 4^2(2 + 5)]$

14.  $25 + [(16 - 3 \times 5) + \frac{12+3}{5}]$

15.  $7^3 - \frac{2}{3}(13 \times 6 + 9)4$

16.  $3 \times 2(2 + 3)^2 - 1$

17.  $8^2 \times 4 \times 16 - 4^2$

18.  $2(12 - 9)^2 - 5 \times 4$

19.  $\frac{8+3^3}{12-7}$

20.  $\frac{(1+6)9}{5^2-4}$

21.  $\frac{2 \times 8^2 - 2^2 \times 8}{2 \times 8}$

22.  $\frac{9^2 - 2 \times 4^2}{12 + 4 - 9}$

23.

x	$3(x^2 - 4) + (10 - x)$
1	
-3	
3	

24.

x	$\frac{2x^2 - 6 + x}{12 - 3x}$
0	
-5	
5	



## The Distributive Property

**I Can...**Simplify and evaluate expressions using the distributive property.

Identify and combine like terms.

**The Distributive Property:**

➤  $a(b + c)$

➤  $5(6 + 3)$

➤  $a(b - c)$

➤  $5(6 - 3)$

**Examples:**

1. Julie walks 5 days a week. She walks at a fast rate for 7 minutes and cools down for 2 minutes. Rewrite  $5(7 + 2)$  using the Distributive Property. Evaluate to find the total number of minutes Julie walks.

2. Rewrite each product using the Distributive Property.

a.  $12(y + 3)$

b.  $15(3x - 5)$

c.  $5(6m^3 + 4n - 3n)$

d.  $4(y^2 + 8y + 2)$

**Vocabulary:**

1. Term --- A \_\_\_\_\_, a \_\_\_\_\_ or a \_\_\_\_\_ or \_\_\_\_\_ of \_\_\_\_\_ and \_\_\_\_\_.

**Examples:**

2. Like terms --- \_\_\_\_\_ that contain \_\_\_\_\_ same \_\_\_\_\_ and \_\_\_\_\_.
3. Simplest form --- An \_\_\_\_\_ that contains no \_\_\_\_\_ or \_\_\_\_\_.
4. Coefficient --- The \_\_\_\_\_ part of a \_\_\_\_\_.

**Examples:**

4. Simplify each expression. If not possible, write *simplified*.

a.  $17a + 21a$

b.  $12b^2 - 8b^2 + 6b$

c.  $14a^2 + 13b^2 + 27$

d.  $3(x + 2x)$

e.  $5x^2 + 6y^2 - 3x^2 + 12y^2$

f.  $6(2x + 5y) + 6x - 3y$

**5. A typical family of four uses 100 gallons of water flushing toilets, 80 gallons of water taking showers, and 8 gallons of water running the bathroom sink each day.**

a. Write an expression to show how much water the family uses in 7 days.

b. Rewrite the expression using the Distributive Property. Then evaluate.



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## Distributive Property

Rewrite each expression using the Distributive Property. Then simplify.

1.  $9(7 + 8)$

2.  $7(6 - 4)$

3.  $6(b + 4)$

4.  $(9 - p)3$

5.  $(5y - 3)7$

6.  $15(f + \frac{1}{3})$

7.  $16(3b - 0.25)$

8.  $m(n + 4)$

9.  $(c - 4)d$

Simplify each expression. If not possible, write *simplified*.

10.  $w + 14w - 6w$

11.  $3(5 + 6h)$

12.  $14(2r - 3)$

13.  $12b^2 + 9b^2$

14.  $25t^3 - 17t^3$

15.  $c^2 + 4d^2 - d^2$

16.  $3a^2 + 6a + 2b^2$

17.  $4(6p + 2q - 2p)$

18.  $x + \frac{2}{3}x + \frac{x}{3}$

**DINING OUT** For exercises 19 and 20, use the following information.

The Ross family recently dined at an Italian restaurant. Each of the four family members ordered a pasta dish that cost \$11.50, a drink that cost \$1.50, and dessert that cost \$2.75.

19. Write an expression that could be used to calculate the cost of the Ross' dinner before adding tax and a tip.

20. What was the cost of dining out for the Ross family?

**ORIENTATION** For exercises 21 and 22, use the following information.

Madison College conducted a three-day orientation for incoming freshmen. Each day, an average of 110 students attended the morning session and an average of 160 students attended the afternoon session.

21. Write an expression that could be used to determine the total number of incoming freshmen who attended the orientation.

22. What was the attendance for all three days of orientation?





## Multi-step Equations: Variables on One Side

**I Can...** Solve multi-step equations for a given variable on only one side of the equal sign.

Write algebraic equations from verbal sentences.

### Things to Remember About Solving Equations:

1. Begin with \_\_\_\_\_ and \_\_\_\_\_.
2. Finish with \_\_\_\_\_ and \_\_\_\_\_.
3. If the \_\_\_\_\_ starts as a \_\_\_\_\_, get rid of the \_\_\_\_\_ first before finishing the problem.
4. **ALL** \_\_\_\_\_ must be \_\_\_\_\_.

### Examples:

1. Solve each equation. **SHOW ALL WORK!!!!**

a.  $2a - 6 = 4$

b.  $\frac{t}{8} + 21 = 14$

c.  $\frac{k-12}{5} = 4$

d.  $\frac{n+1}{-2} = 15$

e.  $8 - \frac{3}{8}k = -4$

f.  $\frac{15-a}{3} = -9$

2. Write an equation for each sentence, and then solve the equation. **SHOW ALL WORK!!!**

a. Sixteen is equal to seven increased by the product of three and a number.

b. Twelve decreased by twice a number equals negative thirty-four.

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### Multi-step Equations (variable on one side)

Solve each equation. Then check your solution.

1.  $-12n - 19 = 7$

2.  $17 + 3f = 14$

3.  $15t + 4 = 49$

4.  $\frac{u}{5} + 6 = 2$

5.  $\frac{d}{-4} + 3 = 15$

6.  $\frac{b}{3} - 6 = -2$

7.  $\frac{1}{2}y - \frac{1}{8} = \frac{7}{8}$

8.  $-32 - \frac{3}{5}f = -17$

9.  $8 - \frac{2}{5}k = -4$

10.  $\frac{r+13}{12} = 1$

11.  $\frac{15-2d}{3} = -5$

12.  $\frac{3k-7}{5} = 16$

13.  $\frac{x}{7} - 0.5 = 2.5$

14.  $2.5g + 0.45 = 0.95$

15.  $0.4m - 0.7 = 0.22$

Write an equation and solve each problem.

16. Seven less than four times a number equals thirteen. What is the number?

17. Four is equal to three times a number minus fourteen. What is the number?

18. The quotient of negative x and six plus twelve is negative seven. What is the number?

19. Three times the sum of a number and two is twelve. What is the number?

20. **Coin Collecting:** Jung has a total of 92 coins in his coin collection. This is 8 more than three times the number of quarters in the collection. How many quarters does Jung have in his collection?



## Multi-step Equations: Variables on Both Sides

**I Can...** Solve multi-step equations that contain a variable on both sides of the equal sign.

Write algebraic equations from verbal sentences.

### Things to Remember About Solving Equations:

1. All \_\_\_\_\_ must end up on the \_\_\_\_\_ side of the \_\_\_\_\_ sign and all \_\_\_\_\_ must be on the other side.
2. If there are \_\_\_\_\_, get rid of them \_\_\_\_\_ by using the \_\_\_\_\_ Property.
3. If there are \_\_\_\_\_ on the \_\_\_\_\_ side of the \_\_\_\_\_ sign, \_\_\_\_\_ them together.
4. **ALL** \_\_\_\_\_ must by \_\_\_\_\_.

### Examples:

1. Solve each equation. **SHOW ALL WORK!!!!**

a.  $8 + 5x = 7x - 2$

b.  $8s - 10 = 3(6 - 2s)$

c.  $\frac{1}{3}(18 + 12a) = 6(2a - 7)$

d.  $8(5c - 2) = 10(32 + 4c)$

e.  $4(t + 20) = \frac{1}{5}(20t + 400)$

f.  $\frac{3}{4}k - 5 = \frac{1}{4}k - 1$

g.  $2x - 5(x - 3) = 2(x - 10)$

h.  $2(4 + 2k) + 10 = k$

i.  $-6y - 3 = 3 - 6y$

j.  $3(a + 1) - 5 = 3a - 2$

2. Write an equation from the sentence, and then solve the equation. **SHOW ALL WORK!!!**

a. One half of a number increased by sixteen is four less than two thirds of the number.

b. Two times a number  $n$  is three times the sum of  $n$  and nine.





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### Multi-step Equations (variable on both sides)

Solve each equation. Then check your solution.

1.  $5x - 3 = 13 - 3x$

2.  $-4c - 11 = 4c + 21$

3.  $1 - s = 6 - 6s$

4.  $14 + 5n = -4n + 17$

5.  $\frac{1}{2}k - 3 = 2 - \frac{3}{4}k$

6.  $\frac{1}{2}(6 - z) = z$

7.  $3(-2 - 3x) = -9x - 4$

8.  $4(4 - w) = 3(2w + 2)$

9.  $9(4b - 1) = 2(9b + 3)$

10.  $3(6 + 5y) = 2(-5 + 4y)$

11.  $-5x - 10 = 2 - (x + 4)$

12.  $6 + 2(3j - 2) = 4(1 + j)$

13.  $\frac{5}{2}t - t = 3 + \frac{3}{2}t$

14.  $1.4f + 1.1 = 8.3 - f$

15.  $\frac{2}{3}x - \frac{1}{6} = \frac{1}{2}x + \frac{5}{6}$

16.  $2 - \frac{3}{4}z = \frac{1}{8}z + 9$

17.  $\frac{1}{2}(3g - 2) = \frac{g}{6}$

18.  $\frac{1}{3}(c + 1) = \frac{1}{6}(3c - 5)$

19.  $\frac{1}{4}(5 - 2h) = \frac{h}{2}$

20.  $\frac{1}{9}(2m - 16) = \frac{1}{3}(2m + 4)$

21.  $3(d - 8) - 5 = 9(d + d) + 1$

22.  $2(a - 8) + 7 = 5(a + 2) - 3a - 19$

23. Two thirds of a number reduced by 11 is equal to 4 more than the number. Find the number.

24. Five times the sum of a number and 3 is the same as 3 multiplied by 1 less than twice the number. What is the number?



# Multi-step Equations: Solving for a Specific Variable

I Can...Solve multi-step equations for a specific variable.

## Things to Remember About Solving Equations:

1. \_\_\_\_\_ and \_\_\_\_\_ undo each other.
2. \_\_\_\_\_ and \_\_\_\_\_ undo each other.
3. The \_\_\_\_\_ you are \_\_\_\_\_ for needs to stay where it is at and everything else needs to \_\_\_\_\_ away from that \_\_\_\_\_.
4. Your \_\_\_\_\_ will not be a \_\_\_\_\_. It will be a different \_\_\_\_\_ of the \_\_\_\_\_.
5. **ALL** \_\_\_\_\_ must by \_\_\_\_\_.

## Examples:

1. Solve each equation. **SHOW ALL WORK!!!! (Review)**

a.  $17 + 3f = 14$

b.  $\frac{3k-7}{5} = 16$

c.  $14 + 5n = -4n + 17$

2. Solve each equation for the indicated variable.

a.  $7h + f = 2h + g$ , for  $g$

b.  $15 = 3n + 6p$ , for  $n$

c.  $28 = t(r + 4)$ , for  $t$

d.  $a(q - 8) = 23$ , for  $q$

e.  $\frac{k-2}{5} = 11j$ , for  $k$

f.  $d + 5c = 3d - 1$ , for  $d$

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## Multi-step Equations (solving for a specific variable)

day 3

Solve each equation. Then check your solution.

1.  $3m + 4 = -11$

2.  $12 = -7f - 9$

3.  $-3 = 2 + \frac{a}{11}$

4.  $\frac{3}{2}a - 8 = 11$

5.  $8 = \frac{x-5}{7}$

6.  $\frac{c+1}{-3} = -21$

7.  $13x + 2 = 4x + 38$

8.  $6(n + 4) = -18$

9.  $7 = -11 + 3(b + 5)$

10.  $5 + 2(n + 1) = 2n$

11.  $3(3m - 2) = 2(3m + 3)$

12.  $5h - 7 = 5(h - 2) + 3$

Solve each equation for the indicated variable.

13.  $u = vw + z$ , for  $v$

14.  $fg - 9h = 10j$ , for  $g$

15.  $\frac{df+10}{6} = g$ , for  $f$

16.  $-14n + q = rt - 4n$ , for  $n$

17.  $18t + 11v = w - 13t$ , for  $t$

18.  $P = 2l + 2w$ , for  $w$

19.  $A = \frac{1}{2}bh$ , for  $b$

20.  $T = Ph + 2B$ , for  $h$

21.  $L = 2\pi rh$ , for  $r$

22.  $V = \frac{1}{3}Bh$ , for  $B$



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## Algebra Review Week 1

Short Answer. SHOW ALL WORK!!!! CIRCLE YOUR ANSWERS!!!

*Evaluate the expression.*

1.  $7 + 2(9 - 3)$

2.  $5 + [(2^5 - 5) \div 9]11$

*Evaluate the following expression if  $x = 5$ ,  $y = -12$ , and  $z = -5$ .*

3.  $\frac{3y+x^2}{z}$

*Simplify the expression.*

4.  $4(fg + 3g) + 5g$

5.  $3x - 7(3x - 4)$

Solve the following equations. Then check your solution.

6.  $-9 = 3t + 6$

7.  $\frac{n}{4} - 7 = -2$

8.  $\frac{t}{3} - 9.2 = 3.5$

9.  $9 + \frac{2}{3}x = 81$

10.  $65 = \frac{3}{4}c - 7$

11.  $\frac{r+4}{3} = 7$

12.  $-18 = \frac{9-a}{2}$

13.  $8m + 7 = 5m + 16$

14.  $2h - 14 = -5h$

15.  $-2(b - 3) - 4 = 18$

16.  $4(3w - 2) = 8(2w + 3)$

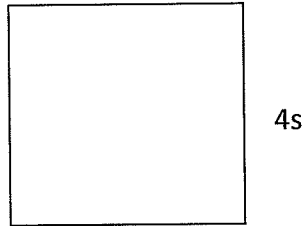
17.  $3x + 2y = 9$ , for  $y$

18.  $T = \pi r l + \pi r^2$ , for  $l$

19.  $14w + 15x = y - 21w$ , for  $w$



20. Write an algebraic expression to represent the area of the square. Then evaluate it to find the area when  $s = 8$



21. Maria uses dots to track her activities on a calendar. Red dots represent homework, yellow dots represent work, and green dots represent track practice. In a typical week, she uses 5 red dots, 3 yellow dots and 4 green dots.

- Write an expression to show how many activities Maria does in 4 weeks.
- Rewrite the expression using the Distributive Property. Then evaluate

22. Write an equation for the sentence, and then solve the equation. **SHOW ALL WORK!**

- Fourteen less than three fourths of a number is negative eight.
- Two thirds of a number reduced by eleven is equal to four more than the number.

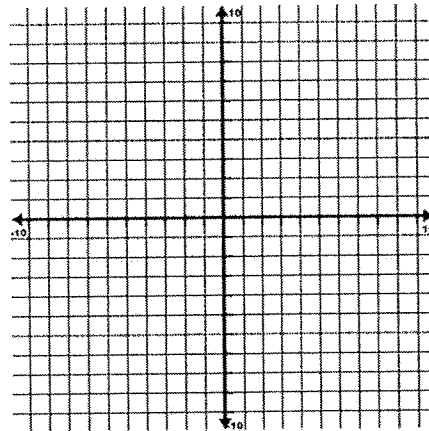


# The Coordinate Plane and Slope

- I Can...** Identify the domain and range of a function.  
Identify the independent and dependent variables.  
Graph ordered pairs on a coordinate plane.  
Calculate the slope of a line.

## Vocabulary:

1. Domain—Any \_\_\_\_\_ that represents \_\_\_\_\_ in an \_\_\_\_\_ pair.
2. Range—Any \_\_\_\_\_ that represents \_\_\_\_\_ in an \_\_\_\_\_ pair.
3. Ordered pairs—A \_\_\_\_\_ of \_\_\_\_\_ written in the form \_\_\_\_\_ that are graphed on a \_\_\_\_\_ plane.
4. Coordinate Plane—



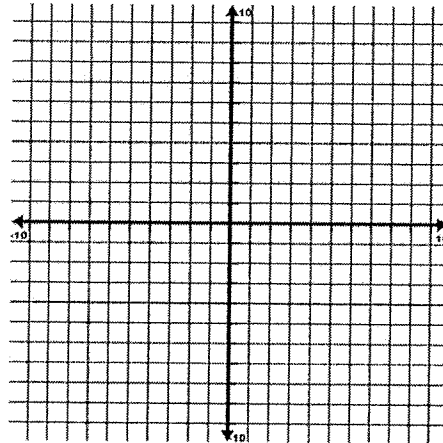
5. Independent variable—The \_\_\_\_\_ that is \_\_\_\_\_ by the rest of the problem.
6. Dependent variable—The \_\_\_\_\_ that is \_\_\_\_\_ by the rest of the problem.
7. Relation—A \_\_\_\_\_ of \_\_\_\_\_.
8. Discrete graph—A \_\_\_\_\_ that consists of \_\_\_\_\_ that are not \_\_\_\_\_.

9. Continuous graph—A \_\_\_\_\_ consisting of a \_\_\_\_\_ or smooth \_\_\_\_\_.

**Examples:**

1. Graph the following ordered pairs on the given coordinate plane.

- a.  $A(5, 3)$
- b.  $B(-6, 4)$
- c.  $C(3, -8)$
- d.  $D(0, -3)$
- e.  $E(-2, -6)$
- f.  $F(7, 0)$



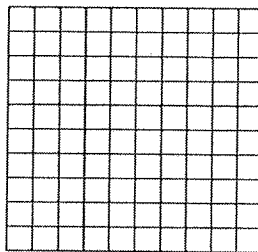
For Examples 2-5, use the table that shows the charges for washing and pressing shirts at a cleaner.

<b>Number of Shirts</b>	2	4	6	8	10	12
<b>Total Cost (\$)</b>	3	6	9	12	15	18

2. Identify the independent and dependent variables.

3. Write the ordered pairs the table represents.

4. Draw a graph of the data.



5. Use the data to predict the cost for washing and pressing 16 shirts.

## Vocabulary:

10. Slope—A \_\_\_\_\_ (fraction) that describes the \_\_\_\_\_ and \_\_\_\_\_ of a line.

\*\*\*\*To \_\_\_\_\_ you must know \_\_\_\_\_ that are on the \_\_\_\_\_.

## Calculating Slope:

### Types of Slope:

1. Positive slope—Any \_\_\_\_\_ that \_\_\_\_\_ upwards from left to right.

2. Negative slope—Any \_\_\_\_\_ that \_\_\_\_\_ downwards from left to right.

3. Zero slope—Any \_\_\_\_\_ line.

\*\*\*\*When \_\_\_\_\_ this type of \_\_\_\_\_, a \_\_\_\_\_ will appear in the \_\_\_\_\_ of your \_\_\_\_\_.

4. Undefined slope—Any \_\_\_\_\_ line.

\*\*\*\*When \_\_\_\_\_ this type of \_\_\_\_\_, a \_\_\_\_\_ will appear in the \_\_\_\_\_ of your \_\_\_\_\_.

**Examples:**

6. Calculate the slope of each line that passes through the following points. **SHOW ALL WORK!!!!**

a.  $(-3, -4)$   $(-2, -8)$

b.  $(-2, -4)$   $(-2, 3)$

c.  $(-3, 2)$   $(5, 5)$

d.  $(-3, 4)$   $(4, 4)$

7. Find the value of  $r$  so that the line passing through each pair of points has the given slope.

a.  $(6, 3)$   $(r, 2)$  and  $m = \frac{1}{2}$

b.  $(1, 4)$   $(-1, r)$  and  $m = 2$

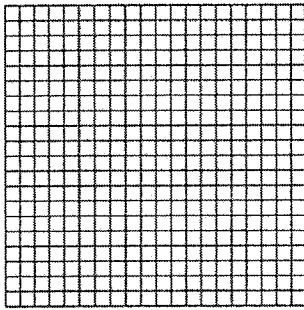
Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

## The Coordinate Plane and Slope

1. The table below represents the length of a baby versus its age in months.

Age (months)	0	1	2	3	4
Length (inches)	20	21	23	23	24

- Identify the independent and dependent variables. State the domain and the range.
- Write a set of ordered pairs representing the data in the table.
- Draw a graph showing the relationship between age and length.



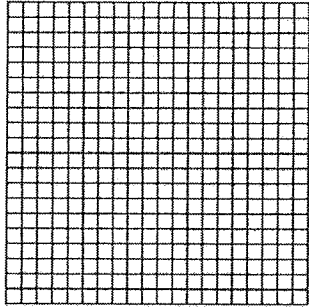
d. Use the data to predict the length of a baby at 9 months.

2. The table below represents the value of a car versus its age.

Age (years)	0	1	2	3	4
Value (\$)	20,000	18,000	16,000	14,000	13,000

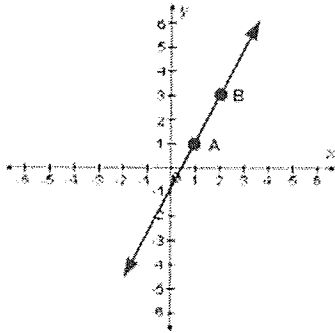
a. Identify the independent and dependent variables. State the domain and range.

- b. Draw a graph showing the relationship between age and value. Is the function discrete or continuous?

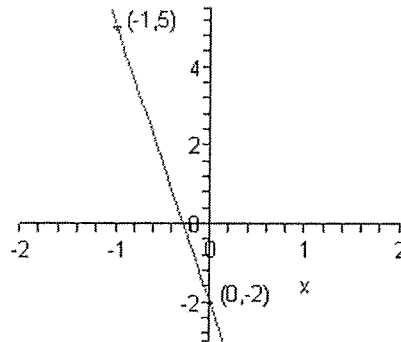


Find the slope of the line that passes through each pair of points.

3.



4.



5.  $(12, 10)$   $(12, 5)$

6.  $(0.2, -0.9)$   $(0.5, -0.9)$

7.  $(6, -2)$   $(5, -4)$

8.  $(\frac{7}{3}, \frac{4}{3})$   $(-\frac{1}{3}, \frac{2}{3})$

Find the slope value or  $r$  so that line that passes through each pair of points has the given slope.

9.  $(-2, r)$   $(6, 7)$  slope of  $\frac{1}{2}$

10.  $(-4, 3)$   $(r, 5)$   $m = \frac{1}{4}$

11.  $(1, 4)$   $(r, 5)$   $m = \text{undefined}$

12.  $(r, 2)$   $(5, r)$   $m = 0$



# Standard and Slope-Intercept Form

**I Can...** Identify a linear equation.

Convert a linear equation into standard form.

Write an equation in slope-intercept form given a) a point and a slope and  
b) two points.

## Vocabulary:

1. Linear equation (function)—Any \_\_\_\_\_ or \_\_\_\_\_ whose  
\_\_\_\_\_ is a \_\_\_\_\_.

### \*\*\*To be a linear equation:

- There can be no \_\_\_\_\_.
- There can be no \_\_\_\_\_ in the \_\_\_\_\_ of a \_\_\_\_\_.
- There can be no \_\_\_\_\_.

2. Standard form for a linear equation—\_\_\_\_\_.

### \*\*\*To be written in standard form:

- "A" (the \_\_\_\_\_ in front of \_\_\_\_\_) can't be \_\_\_\_\_. (This means it has to be \_\_\_\_\_).
- No \_\_\_\_\_ can be a \_\_\_\_\_ or a \_\_\_\_\_.
- \_\_\_\_\_ and \_\_\_\_\_ have to be on the \_\_\_\_\_ side.



## Slope-Intercept Equation:

### Examples:

1. Write an equation in slope-intercept form that passes through the given point and has the given slope.

a. slope =  $\frac{1}{2}$       point = (2, -3)

*Steps for solving:*

b. slope = -1      point = (-4, 7)

2. Write an equation in slope-intercept form that passes through the given points.

a.  $(-3, -4)$   $(-2, -8)$

**Steps for solving:**

b.  $(-1, 12)$   $(4, -8)$

3. As a part-time job, Henry makes deliveries for a caterer. In addition to his weekly salary, he is also paid \$16 per delivery. Last week, he made 5 deliveries and his total salary was \$215.

a. Write an equation to find Henry's total weekly salary  $S$  if he makes  $d$  deliveries.

b. Use the equation to predict how much money Henry will earn if he makes 8 deliveries.





Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

## Standard and Slope-Intercept Form

day 2

Write an equation of the line that passes through each point with the given slope.

1.  $(1, 2)$   $m = 3$

2.  $(4, 3)$   $m = \frac{1}{2}$

3.  $(-1, -3)$   $m = -1$

4.  $(10, -3)$   $m = \frac{4}{5}$

5.  $(6, -3)$   $m = 2$

6.  $(-3, 8)$   $m = -5$

Write an equation of the line that passes through each pair of points.

7.  $(-4, -2)$   $(4, 0)$

8.  $(0, 1)$   $(5, 3)$

9.  $(0, -4)$   $(5, -4)$

10.  $(3, 11)$   $(-6, 5)$

11.  $(7, -2)$   $(3, -1)$

12.  $(-1, -2)$   $(-3, 1)$

13. **DANCE LESSONS** The cost for 7 dance lessons is \$82. The cost for 11 dance lessons is \$122. Write a linear equation to find the total cost  $y$  for  $x$  lessons. Then use the equation to find the cost of 4 lessons.

14. **GYM MEMBERSHIP** A local recreation center offers a yearly membership for \$265. The center offers aerobics classes for an additional \$5 per class. Write an equation that represents the total cost of the membership. Carly spent \$500 one year. How many aerobics classes did she take?



## Graphing Lines

**I Can...** Create an equation in slope-intercept form using a) a slope and a point b) two points or c) a graph.

Graph an equation on a coordinate plane using the slope and y-intercept.

### Slope-Intercept Equation:

#### Examples:

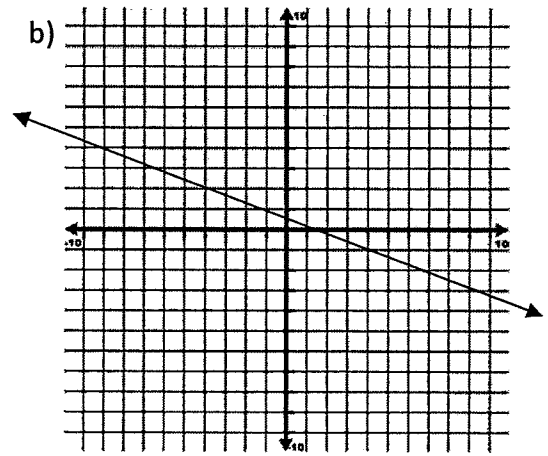
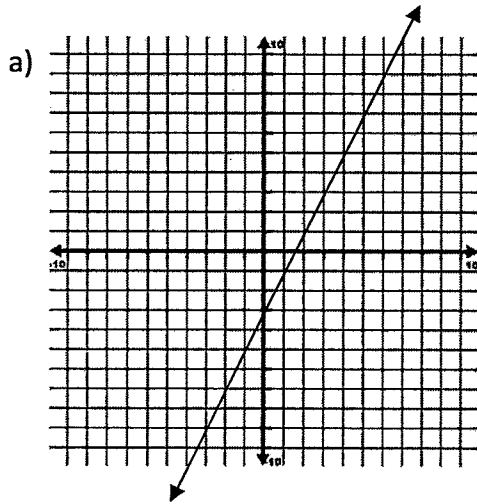
1. Write an equation in slope-intercept form that satisfies the following information.

a.  $m = \frac{1}{4}$  y-intercept = -6

b. slope = -1 point = (-4, 7)

c. (-3, 5) (2, -2)

2. Write an equation in slope-intercept form for the line shown in each graph.



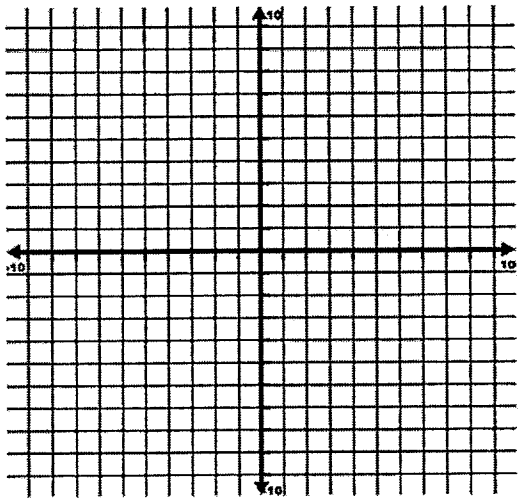
3. Write a linear equation in slope-intercept form to model each situation.

a. A Norfolk pine is 18 inches tall and grows at a rate of 1.5 feet per year.

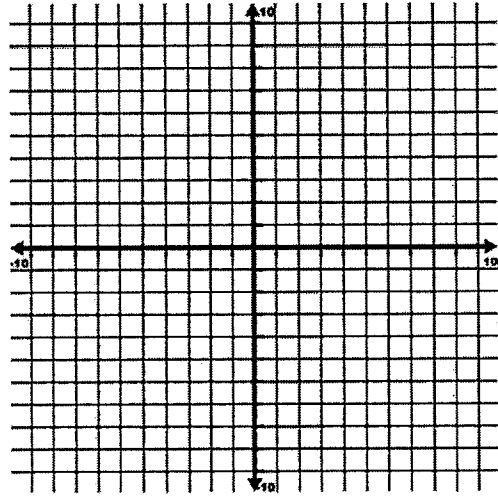
b. An airplane at an altitude of 3000 feet descends at a rate of 500 feet per mile.

4. Graph each equation. Be sure the equation is in slope-intercept form before graphing.

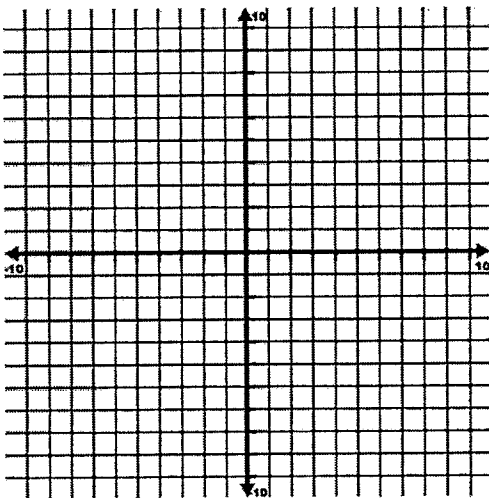
a.  $y = 2x - 3$



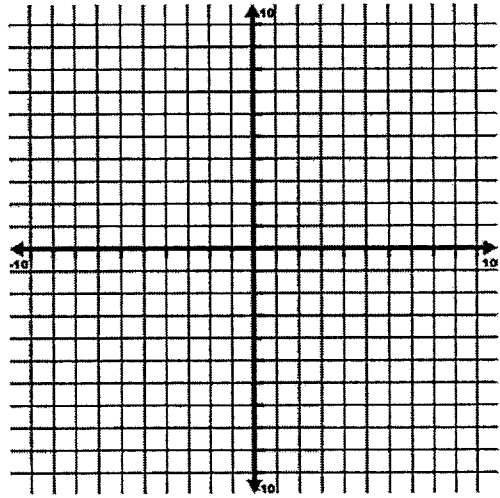
b.  $4x + 3y = -12$



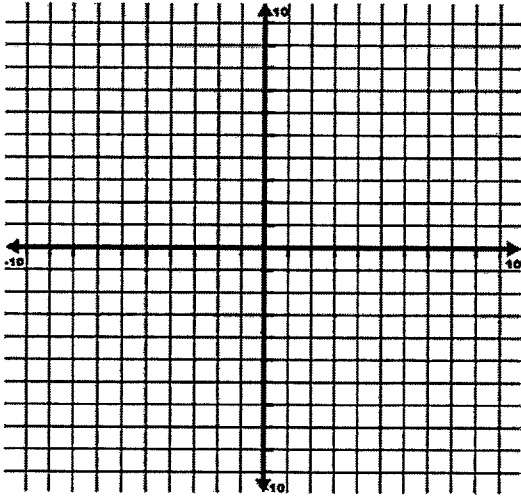
c.  $2x - 3y = 6$



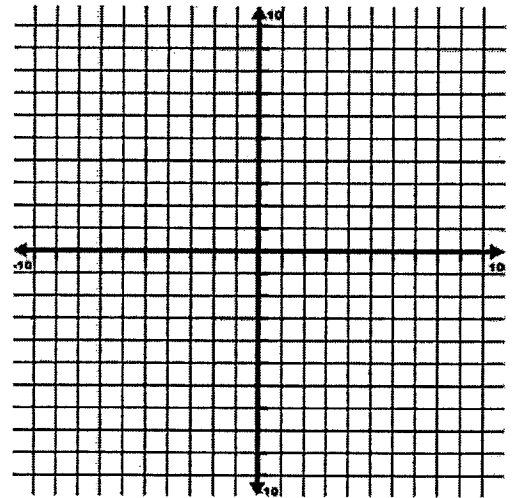
d.  $3x = 9$



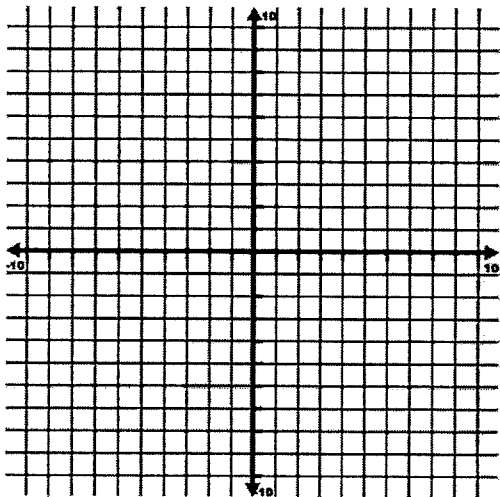
e.  $5y = -10$



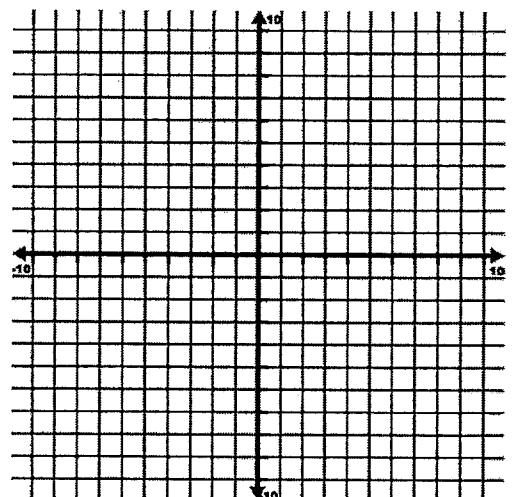
f.  $6x - 4y = 16$



g.  $y = -5x + 3$



h.  $-3x + 7y = 21$



Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

## Graphing Lines

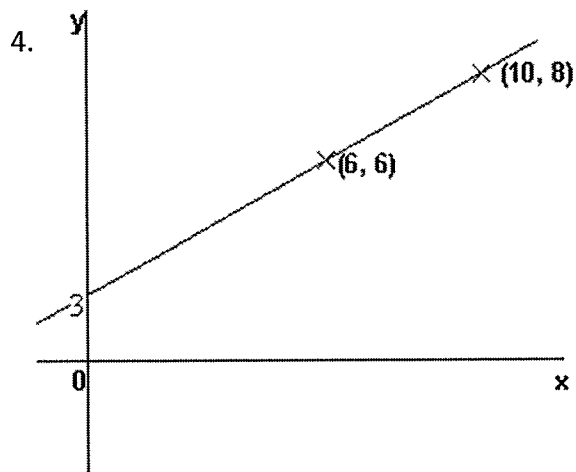
day 1

Write an equation of the line that satisfies the given information.

1.  $m = \frac{2}{5}$  y-intercept = 2

2. slope = -4 point = (2, -3)

3. (-2, 0) (5, 6)



Write a linear equation in slope-intercept form to model each situation.

5. A computer technician charges \$75 for a consultation plus \$35 per hour.

6. A Cairn terrier weighs 30 pounds and is on a special diet to lose 2 pounds per month.

**WRITING** For exercises 7 and 8 use the following information.

Carla has already written 10 pages of a novel. She plans to write 15 additional pages per month until she is finished.

7. Write an equation to find the total number of pages  $y$  written after any number of months  $x$ .

8. Find the total number of pages written after 5 months.

Graph each equation on a separate piece of graph paper. Be sure the equation is in slope-intercept form before graphing.

9.  $y = x + 4$

10.  $x + y = -3$

11.  $2x - 6 = 3y$

12.  $4y = -24$

13.  $2x + y = -6$

14.  $y = \frac{2}{3}x - 5$

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

## Graphing Lines

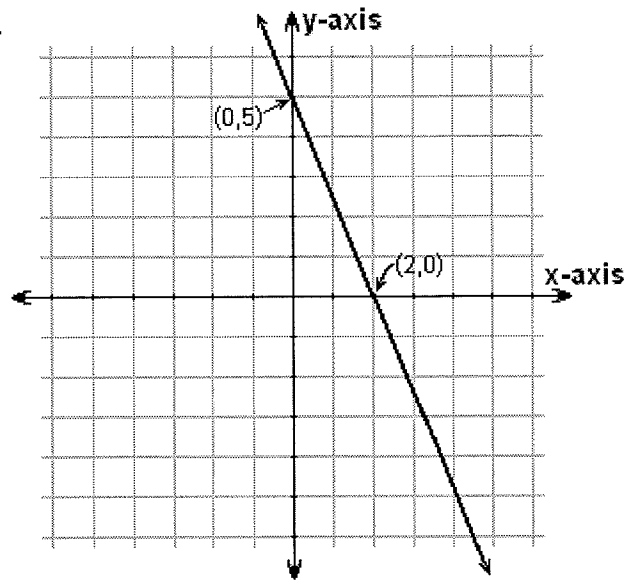
day 2

Write an equation in slope-intercept form given the following information.

1. Slope = 2      y-intercept = -8                      2. (-4, 6)   m = -2

3. (0, 1) (5, 3)

4.



5. **CENSUS** The population of Laredo, Texas, was about 197,000 in 2003. It was about 123,000 in 1990. If we assume that the population growth is constant, write a linear equation to find  $p$ , Laredo's population for any year  $y$ .
6. **BOOKS** In 1904, a dictionary cost \$0.30. Since then the cost of a dictionary has risen an average of \$0.06 per year. Write a linear equation to find the cost  $C$  of a dictionary  $y$  years after 1904. If this trend continues, what will the cost of a dictionary be in 2020?

Graph the following equations on a separate piece of graph paper. Make sure all equations are in slope-intercept form before graphing.

7.  $y = x + 4$

8.  $-2x + 4y = 8$

9.  $y = \frac{3}{4}x$

10.  $3x = -6$

11.  $-4x + y = 2$

12.  $5y = -5$

13.  $5x - 6y = 36$

14.  $y = -\frac{2}{5}x + 8$



Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

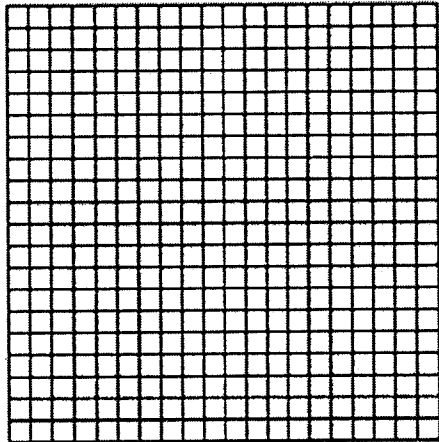
## Algebra Review Week 2

Short Answer. **SHOW ALL WORK!!!!**

1. The average cost of online photos has been decreasing per print since 2002. The following table shows the cost of printing a single picture over the course of several years.

Years	2002	2003	2004	2005	2006
Cost of Printing	\$0.80	\$0.75	\$0.70	\$0.65	\$0.60

- a. Graph the points represented by the table.



- b. Tell the domain and the range of the problem.
- c. What will it cost to print a single picture in 2015?



Write an equation of the line with the given information.

6.  $m = \frac{2}{3}$ , y-intercept = 3

7. slope =  $\frac{2}{5}$ , point = (-3, -1)

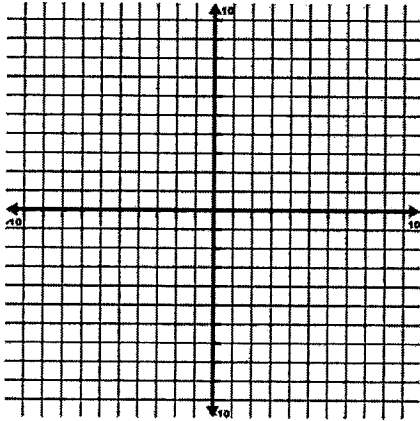
8. (2, 5) (-2, 8)

9. At Slippery Slopes Ski Lodge, a lift ticket costs \$15 a day and ski rentals are \$5 per hour. Write an equation in slope-intercept form for the total cost of skiing for  $h$  hours with one lift ticket.

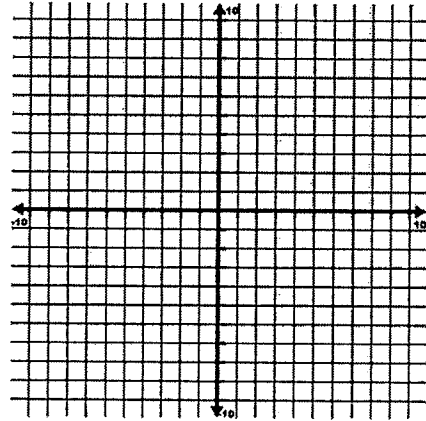
10. A popular pizza parlor charges \$12 for a large cheese pizza plus \$1.50 for each additional topping. Write an equation in slope-intercept form for the total cost  $C$  of a pizza with  $t$  toppings.

Graph the following equations. Make sure that your equations are in slope-intercept form first.

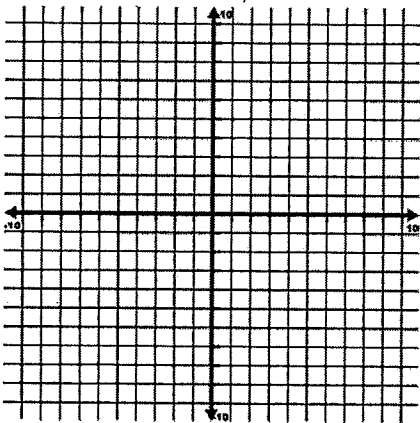
11.  $y = 4x - 2$



12.  $y = \frac{1}{2}x + 1$



13.  $3x + 4y = -8$



14.  $\frac{5}{2}y = -10$

