1.6

Algebra I Agenda

1st six weeks ends Thursday!

				Stamp
Monday	9/28/2015	Objective:	Slope	
		Assignment:	Practice #1-16	
Tuesday	9/29/2015	Objective:	Real World Applications of Slope	
		Assignment:	Practice #1-7	
Wednesday	9/30/2015	Objective:	Solutions to Linear Equations	
		Assignment:	Practice #1-11	
Thursday	10/1/2015	Objective:	X- and Y- Intercepts	
		Assignment:	Practice #1-11	
Friday	10/2/2015	Objective:	Quiz	
		Assignment:	HW 1.6 Due!	

Monday: 1ˢᵗ Attempt (DO NOT ERASE)	Correct Solution:

Tuesday: 1ˢᵗ Attempt (DO NOT ERASE)	Correct Solution:

Wednesday: 1ˢᵗ Attempt (DO NOT ERASE)	Correct Solution:

Thursday: 1ˢᵗ Attempt (DO NOT ERASE)	Correct Solution:

Friday: 1ˢᵗ Attempt (DO NOT ERASE)	Correct Solution:

Warm Up Expectations:
- Try warm up problem(s) on your own on the "First Attempt" side.
- Politely request teacher signature when complete before timer goes off.
- Copy the correct work/solution in the right-hand box.
- Ask questions ☺

When absent...
Write the word "ABSENT" on the first attempt column for 2 points. Copy the correct solution from a shoulder partner on the correct solution column for 1 point.

Warm Up Daily Scores Guide:

3	• Complete first attempt • Teacher signature • Completed correct solution
2	• Two of the three listed above are present
1	• One of the three listed above are present
0	• None of the three listed above are present

Practice – Finding Slope

Name _____ Date _____

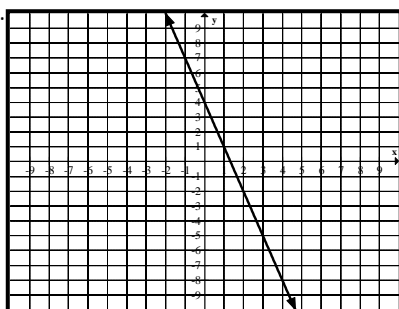**Find the rate of change of the following tables.**

1.

x	y
1	4
2	2
3	0
4	-2

2.

x	-2	-2	-2
y	1	4	7

3.

x	y
-3	6
3	-2
6	-6
12	-14

_____   _____   _____

4. **Given the following graphs, find the rate of change.**

a.

b.

_____   _____
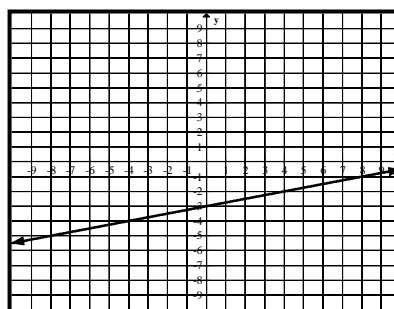
5. Find the slope of the line that passes through the points (-2, -1) and (4, 2).

6. In two hours a bus travels 100 miles while in three hours the bus travels 150 miles. Fill in the table, including what the independent and dependent variables are for this situation, and determine the rate of change.

x	y

m = _____

7. Which of the following tables best represent a linear function with a rate of change of $\frac{3}{4}$?

A

x	y
-3	-4
0	0
3	4

B

x	y
1	2.50
3	4
4	4.75

C

x	y
0	1.75
6	9.75
9	13.75

D

x	y
-4	1
0	-2
4	-5

8. Determine the slope from the table.

Time (seconds)	3	21	30	42
Number of letters texted	2	14	20	28

Match the line on the graph to the slope.
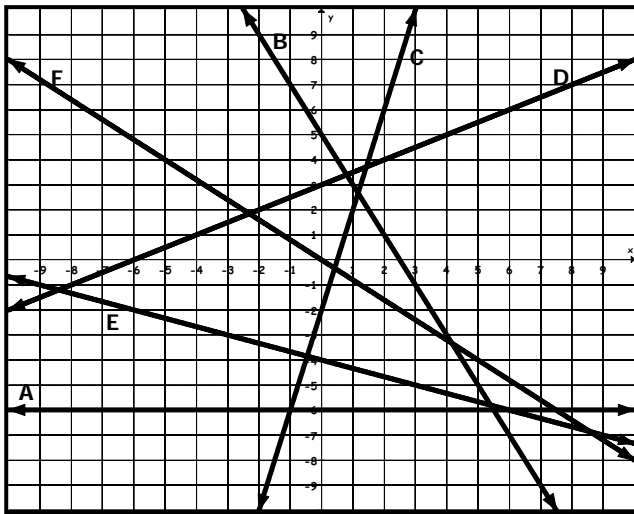
9. Which line has a slope of -2? _____

10. Which line has a slope of $-\frac{1}{3}$? _____

11. Which line has a slope of $\frac{1}{2}$? _____

12. Which line has a slope of 0? _____

Determine the slope of the line that passes through each set of points.

13.   (-3.4, -3.2) and (0, 0)

14.   (5, -2) and (8, -2)

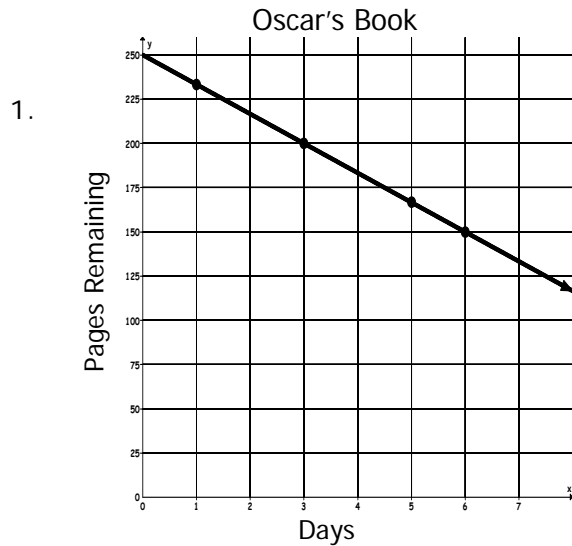**Determine the value of _r_ so the line that passes through each pair of points has the given slope.**

15.   (5, _r_)   and (2, -3) $m = \frac{4}{3}$

16.   (4, -5)   and (_r_, -13)   _m_ = 8

Algebra 1 Unit 3 – Slope Real World Applications

Practice – Slope Real World Applications

Name _____ Date _____ Period _____

Identify the independent and dependent variables, then find the slope of each line and tell what it represents.

1.

Oscar's Book

Pages Remaining / Days

Independent variable: _____
Dependent variable: _____
Slope: _____
Meaning: _____
_____

2.

Hourly Wages

Salary (hourly rate) / Years of Service

Independent variable: _____
Dependent variable: _____
Slope: _____
Meaning: _____
_____

3. The graphs below show Lines *l* and *z*, the total cost, including tax, of an item in two different states. Which line represents the total cost, including tax, of an item with a higher tax rate?

Cost of Item (including Tax)

c

Z

l

Price of Item (before tax)

P

Answer:

_____
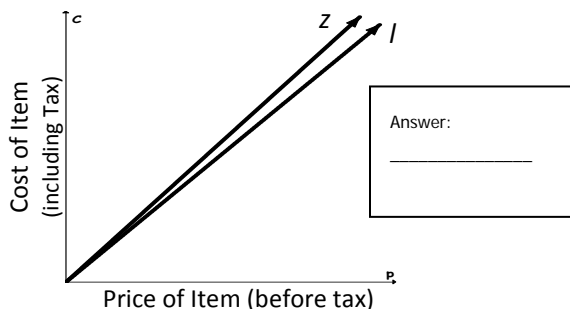
4. The graph below represents the cost of a long distance call with a phone company based on the number of minutes.

Cost (in dollars)

c

11
10
9
8
7
6
5
4
3
2
1
0

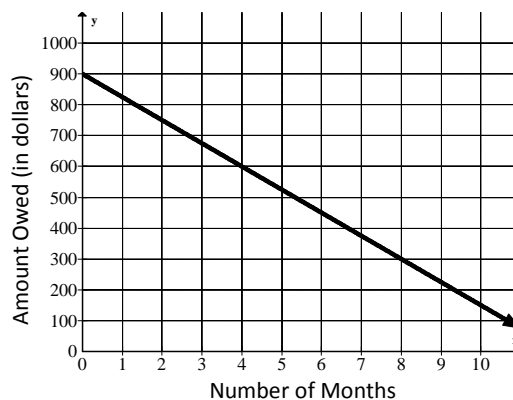0   10   20   30   40   50   60   70   80   90   100

m

Number of Minutes
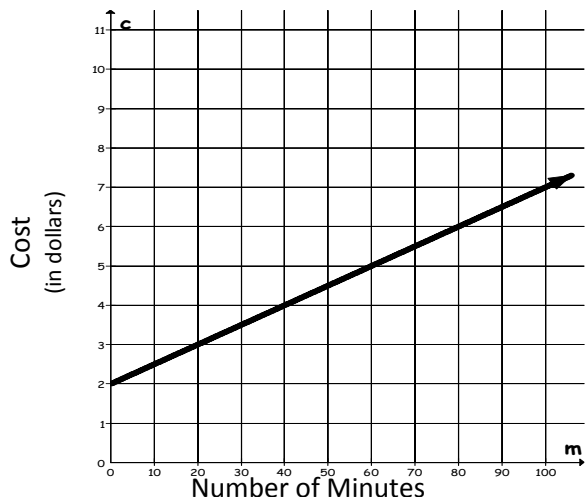
Based on the graph, what is the slope and what does it represent?

5. Alyssa's carpet cleaning service charges an initial fee of $45, plus $5 for every 100 square feet of carpet cleaned. Alyssa graphed *y*, the amount that her cleaning service charges, as a function of *x*, every 100 square feet of carpet cleaned. What does the slope of Alyssa's graph represent?

A   The charge per square foot of carpet cleaned
B   The number of square feet of carpet cleaned
C   The total amount owed
D   The initial fee

6. The graph below represents the amount of money Liz owes her father and the number of monthly payments needed to pay it back.

y

Amount Owed (in dollars)

1000
900
800
700
600
500
400
300
200
100
0

0   1   2   3   4   5   6   7   8   9   10

x

Number of Months

A. What are the independent and dependent variables in this situation?

B. What is the slope?

C. What does the slope of the graph represent in the situation?

7. The graph shows how much water is in a reservoir at different times. Find the slope of the line and explain what the slope represents.

Water in Reservoir

Water (thousand ft^3)

3000
2500
2000
1500
1000
500
0

(20, 3000)

(60, 2000)

10 20 30 40 50 60

Time (h)
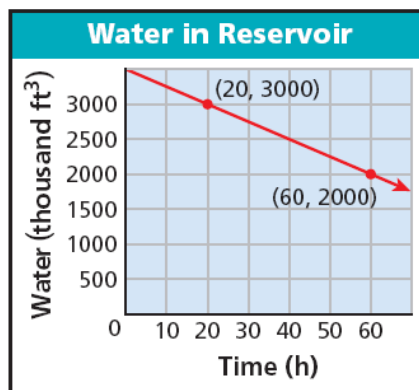
Practice – Solutions to Linear Functions

Name _____ Date _____ Period _____

Which ordered pair(s) are solutions to the equation? (There may be more than one answer.)

1. $3x = 2y - 1$ A (1, -2)   B (-1, -1)   C $(-2, -\dfrac{5}{2})$ D (0, -2)

2. $2y = x + 3$ A (-1, -1)   B (-3, 0)   C (1, -2)   D $(0, -\dfrac{3}{2})$

3. $5x = 2 - y$ A (3, 12)   B (-3, -17)   C (2, -8)   D (-1, 7)

Solve each equation if the domain is {-2, -1, 0, 2.4}.

4. $y = 2x - 7$ 5. $-5x + y = -10$

x	y

x	y

Range: {____, ____, ____, ____,}   Range: {____, ____, ____, ____}

Solve each equation if the range is {-2, -1, 0, 2}.

6. $y = -3x + 1$ 7. $2x - y = -3$

x	y

x	y

Domain: {____, ____, ____, ____ }   Domain: {____, ____, ____, ____ }

Solve.

8.   The cost of renting a DVD at a certain store is described by the function $f(x) = 4x + 3$ in which $f(x)$ is the cost and x is the time in days. If Heather has $19 to spend, what is the number of days that she can rent a single DVD if tax is not considered? Write a sentence to describe your answer.

9.   A recycling center pays $0.35 per pound of glass that it receives. If students at Falcon High School want to raise $500 in a glass-recycling project, what is a reasonable number of pounds of glass they must collect?

A 750 lb   C 500 lb
B 1500 lb   D 175 lb

10. If $(x, -3.2)$ is a solution to the equation $4x = 5y - 17$, what is the value of x?

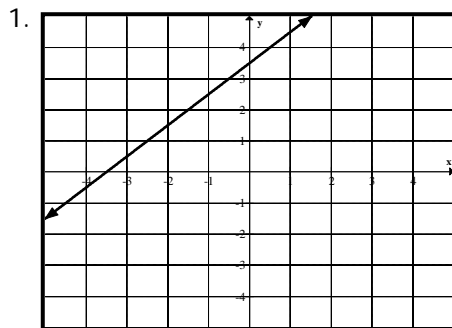A 0.84   B 0.25   C -5.96   D -8.25

11. If $(-7, y)$ is a solution to the equation $2x - 7y - 42 = 0$, what is the value of y?

Practice –Intercepts
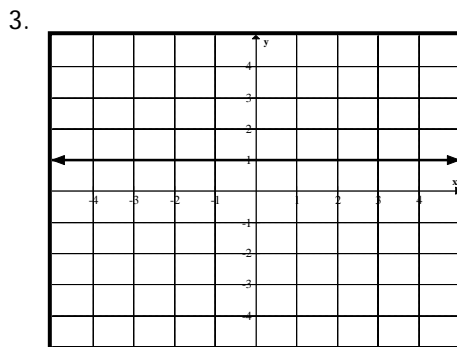
Name _____ Date _____ Period _____
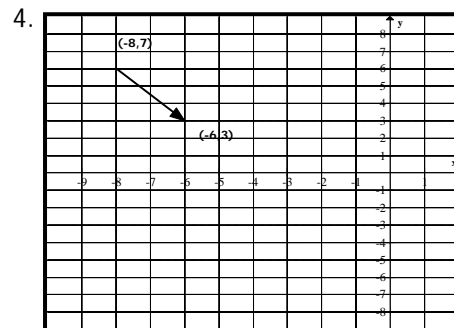
Find the *x*- and *y*-intercepts.

1.

x-int: *y*-int:

2.

x-int: *y*-int:

3.

Zero: *y*-int:

4.

(-8,7)

(-6,3)
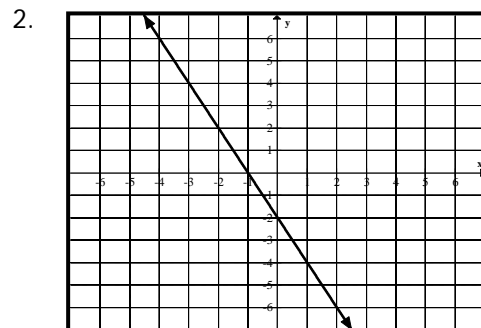
x-int: *y*-int:

5. David is going to a fun center, and it costs$4 to ride bumper boats and $6 to ride go-karts. He has $32 to spend.

    a. What are three different combinations of rides he can ride?

    b. What is the *x*-intercept of this function? What does it represent in this situation?

    c. What is the y-intercept for this function? What does it represent in this situation?

Find the *x*-intercept and *y*-intercept, then use them to graph the equations.

6. $3x + 9y = 9$ 7. $4x = -6y - 12$
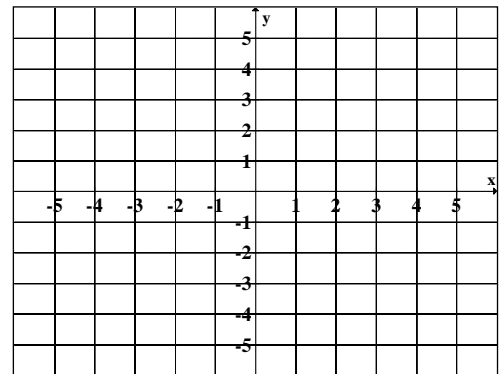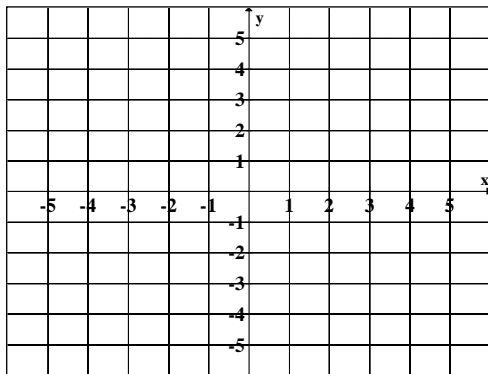
Find the *x*- and *y*-intercepts from the table of values or the equation.

8.

x	y
-2	10
0	6
1	4
2	2
3	0

x-int:

y-int:

Slope:

9.

x	y
-18	-1.5
-16	0
-4	9
0	12
2	13.5

Zero:

y-int:

Slope:

10. What is the *y*-intercept of the function $f(x) = \dfrac{1}{2}(x - 6)$?

11. Which of the following functions has 2 as a zero of the function?

    A $f(x) = x + 2$

    B $f(x) = x - 2$

    C $f(x) = 2x$

    D $f(x) = 2x + 2$