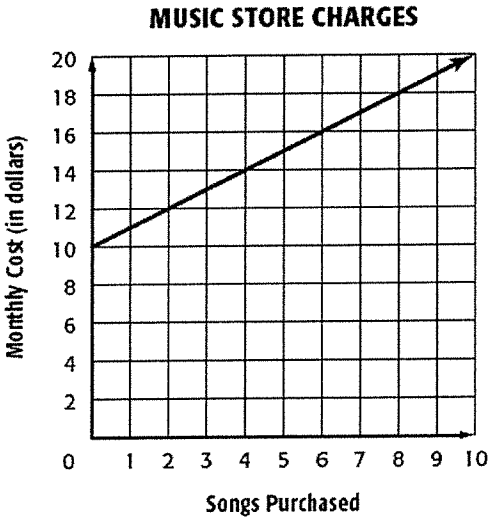
MA.8.A.1.2 Practice Problems

Circle the letter of the answer you choose.

1 The graph below displays the amount a music download store customer pays per month.



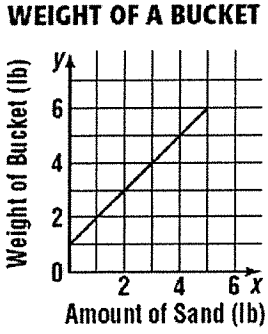
What does the *y*-intercept indicate?

A. The cost of a song is $10.
B. The cost of a song is $2.
C. The subscription fee is $10.
D. The subscription fee is $2.

[Lesson 3-2]

---

2 The graph below shows the weight of a bucket as it is filled with sand.

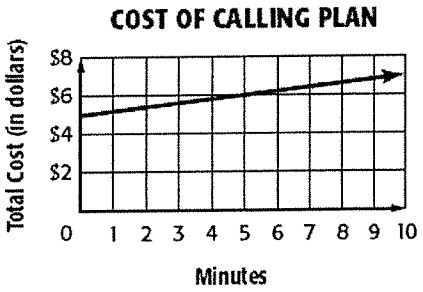


What is the weight of the empty bucket?

F. 0 pounds
G. 1 pound
H. 2 pounds
I. 6 pounds

[Lesson 3-2]

3 The graph below shows the monthly cost of a long-distance calling plan.



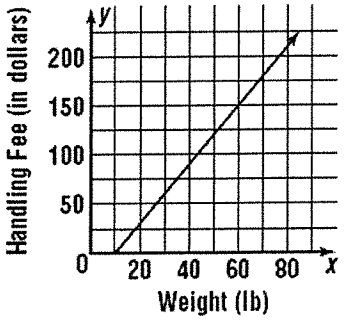
What does the slope of the graph represent?

A. the cost of zero minutes of calls
B. the cost per additional minutes of long-distance calls
C. the total cost of long-distance calls
D. the number of minutes $1 can buy

[Lesson 3-2]

---

4 The graph below shows the handling fee a company charges based on the weight of the package.



According to the graph, which of the following statements is true?

F. A package that weighs less than 10 pounds has a $10 handling fee.
G. The handling fee increases $1 for every 10 pounds.
H. The handling fee increases $10 for every 1 pound.
I. There is no handling fee for packages that weigh 10 pounds or less.

5.

Haruki has $20 in his savings account. Each week he will add $5 to it. He wants to draw a graph that shows how much money is in his savings account over time, starting with $20. What is the equation of the line?

F. $y = 25x$

G. $y = 20x + 5$

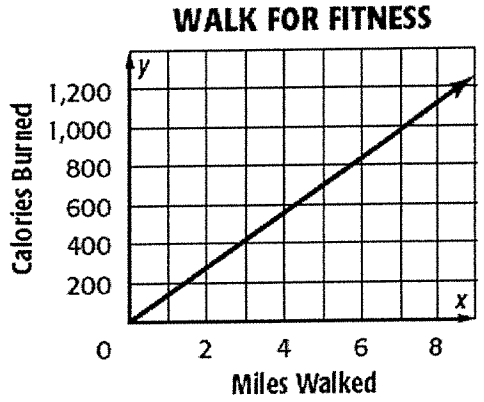
H. $y = 5x + 20$

I. $y = 5x$

[Lesson 3-2] MA.8.A.1.2

6.

Linda saw the following graph in a fitness magazine.



Which does the slope of the graph represent?

A. total calories burned

B. total distance walked

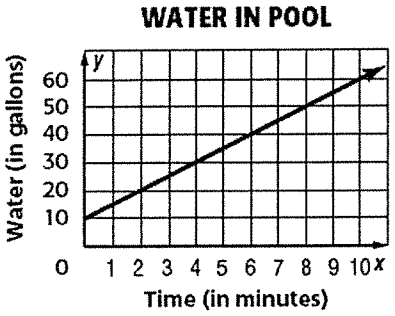
C. calories burned per mile walked

D. miles walked per hour

[Lesson 3-2] MA.8.A.1.2

7.

Ramon is adding water to his swimming pool. The graph below shows the amount of water in the pool as more water is added.



What does the y-intercept represent?

A. the additional gallons of water added per minute

B. the total time needed to fill the pool

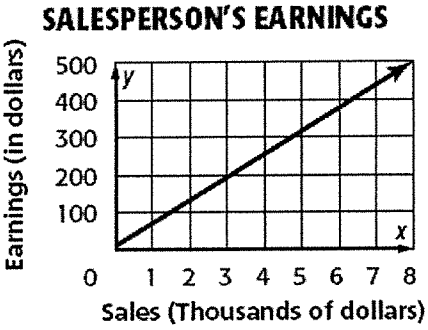
C. the amount of water in the pool before more water was added

D. the total amount of water needed to fill the pool

[Lesson 3-2] MA.8.A.1.2

8.

The graph below shows a salesperson's earnings, which are based on the amount of sales.



Which of the following represents earnings per thousand dollars in sales?

A. the x-intercept

B. the y-intercept

C. the slope

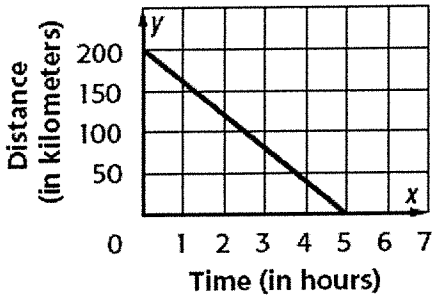
D. the range

[Lesson 3-1] MA.8.A.1.2

9.

Frank is planning to drive his car on the Overseas Highway, the scenic road that connects the islands in the Florida Keys to the Florida mainland. The graph below shows the approximate distance to be traveled from the time Frank leaves Key West to the time he reaches his destination near Miami.

DISTANCE TO BE TRAVELED



What does the slope indicate?

A. Frank's speed is about 60 kilometers per hour.

B. Frank's speed is about 40 kilometers per hour.

C. Frank's speed is about 30 kilometers per hour.

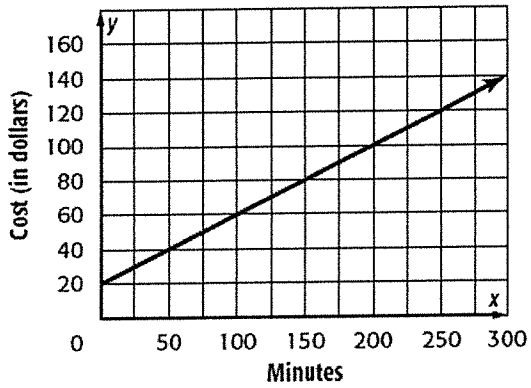
D. Frank's speed is about 20 kilometers per hour.

[Lesson 3-1] MA.8.A.1.2

10.

The graph below represents the amount Samira pays for her cell phone service: a monthly fee plus a charge for each minute she uses her phone.

MONTHLY PHONE CHARGE



What does the *y*-intercept indicate?

A. Her monthly fee is \$0.

B. Her rate per minute is \$0.40.

C. Her monthly fee is \$20.

D. Her rate per minute is \$0.20.

[Lesson 3-1] MA.8.A.1.2

11. The table shows the cost for a clothing store to buy jeans and khakis. The total cost for Saturday's shipment, \$1800, is represented by the function $15x + 20y = 1800$. Find and interpret the *x*- and *y*-intercepts.

	Jeans	Khakis
Cost per Pair (\$)	15	20
Amount Shipped	x	y

120 90

12. A taxi fare *y* can be determined by the equation $y = 0.50x + 3.50$, where *x* is the number of miles traveled.

Graph the equation. #4

Find the cost of traveling 8 miles. 7.50

What is the slope and *y*-intercept? 0.50 / -7

Interpret the slope and *y*-intercept. #4 3.50

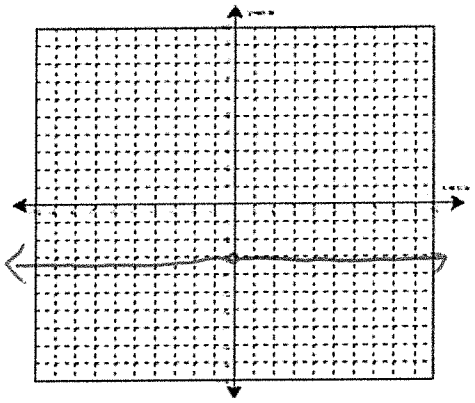
Name: _____ Date: _____ Hour: _____ ID A C# _____

Linear Function Essentials Unit Test

SFIF.C.7, HSF.IF.B.4 (L.2)

1. (4 pts) For the following problem:

a) Graph y= -3



b) Give the slope and y-intercept: slope = 0, y-intercept = -3

c) Determine if the graph is a function or not. Justify your answer:

Yes, for every input there is exactly 1 output.

HSF.IF.B.4, HSFIF.C.7 (L.2)

2. (3 points) What are the x and y intercepts of the equation 4x+3y=12? Choose the best answer choice. Must show all your work.

$\frac{4(0)+3y}{3} = \frac{12}{3}$ → $y = 4$

$x = 3$, $y = 4$

$\frac{4x+3(0)}{4} = \frac{12}{4}$ → $x = 3$

a) (3, 0) and (0, 4)

b) (0, -3) and (4, 0)

c) (-3, 0) and (0, 4)

d) (-3, 0) and (0, -4)

HSAREI.D (L.3)

3. (2 points) Which of the following are solutions to the equation: y+4=2(x+2)? Circle all that apply.

a. (6.5, 21)

b. (4, 4)

c. (1, 2)

$\frac{2+4}{} = \frac{2(1+2)}{2(3)}$

$6 = 6$

d) Create two sets of ordered pairs that would also be solutions to the equation.

2, 4 and 5, 10

4. (3 points) Find the slope of the line given two points (20, 5) and (5, 35) and then write the equation of the line in Slope-Intercept Form.

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{35-5}{5-20} = \frac{30}{-15} = -2$

$y - 35 = -2(x - 5)$

$y = -2x + 45$

5 (5 points) a) Mrs. Kerr saved 300 dollars in 4 weeks and then 600 dollars in 9 weeks.

(L.2) Find the rate of change.

$$\frac{600 - 300}{9 - 4} = \frac{300}{5}$$

$$\frac{\$60}{1 \text{ week}}$$

(L.2) What does the rate of change mean in the problem?

Mrs. Kerr deposits $60 per week

5 b) Ms. Beydoun saved 600 dollars in 2 weeks and then 900 dollars in 7 weeks.

(L.2) Find the rate of change.

$$\frac{900 - 600}{7 - 2} = \frac{300}{5} = \frac{\$60}{1 \text{ week}}$$

(L.2) What does the rate of change mean in the problem?

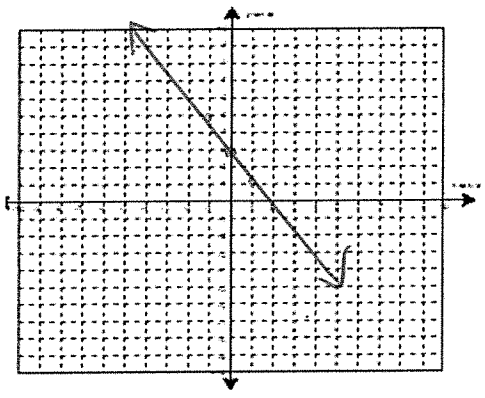
Ms. Beydoun saves $60 per week.

Who saved more money per week? Explain your reasoning.

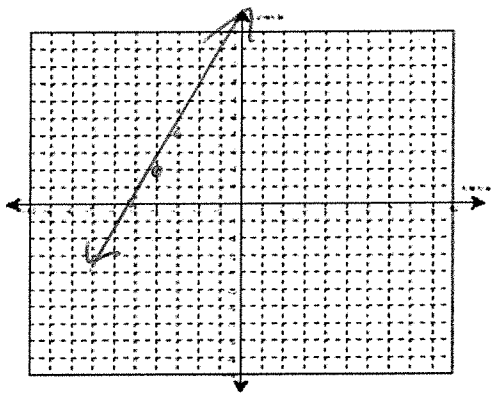
They both save the same amount per week.
Ms. Beydoun starts with more.

HSF.IF.B.4, HSFIF.C.7 (l.2)

6. (2 points) Graph y=-2x+3
State the slope and y-intercept

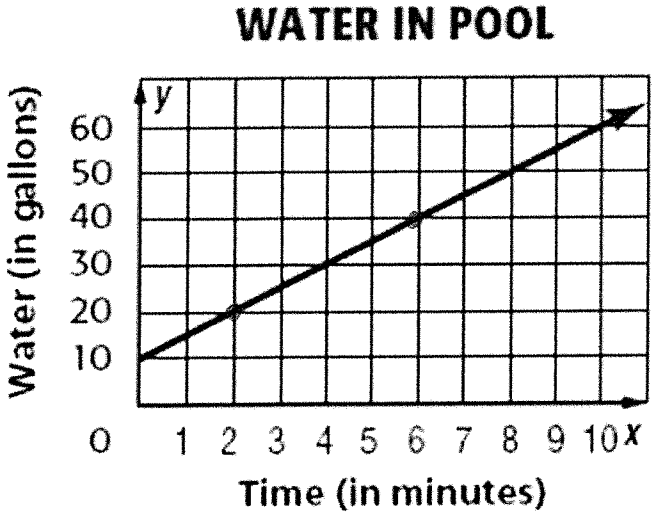


7. (3 points) Graph y-2=-2(x+4)
State the slope and y-intercept



HSSID.C.7 (L.3)

8. (3 points)



2, 20 6, 40

$$\frac{40-20}{6-2} = \frac{20}{4} = 5$$

a) Find the rate of change from the graph above.

5 gallons per minute.

b) Explain what the rate of change means in terms of the problem.

5 gallons per water is added to the ~~water~~ pool.

c) What does the y-intercept mean in the scenario?

10 gallons of water was in the pool before any was added

HSFIF.C.8 (L3)

9. (3 points) Do the following pairs of equations form the same line? Must show all work. Circle YES or NO.

a.) -4x-7y=3 4x+7y=-3 YES NO

$y = \frac{-4}{7}x - \frac{3}{7}$ $y = -\frac{4}{7} + \frac{3}{7}$

b.) y=2x+5 2x+5y=0 YES NO