

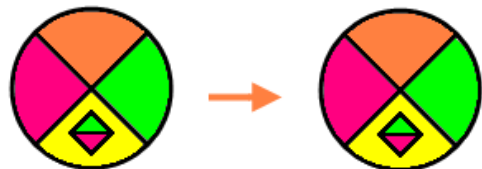
1. Allison drove to visit her aunt who lives 384 miles away. It took her 6 hours to get there. What was her average driving speed?

- A. 66 miles per hour
- B. 62 miles per hour
- C. 68 miles per hour
- D. 64 miles per hour

2. Simplify:  $(2.1 \times 10^{16}) + (4 \times 10^{14})$

- A.  $2.5 \times 10^{16}$
- B.  $2.5 \times 10^{15}$
- C.  $2.14 \times 10^{16}$
- D.  $2.104 \times 10^{16}$

3.



What type of transformation is shown in the figure above?

- A. rotation
- B. reflection
- C. dilation
- D. translation

At a municipal golf course, it costs each player \$32.50 for one round of golf plus \$12.50 for the cart fee.

If  $x$  represents the number of golfers who play one round of golf with a cart, write an equation which represents the total amount of money the golf course will earn from these  $x$  golfers.

What if they are charged the above amount plus a initial fee of \$10 for course maintenance each time they play?

1. An airplane 30,000 feet above the ground begins descending at the rate of 2000 feet per minute. Assume the plane continues at the same rate of descent. The plane's height and minutes above the ground are related to each other.

**Identify the variables in this situation:**  $x =$  \_\_\_\_\_  $y =$  \_\_\_\_\_

**What is the given information in this problem (find all that apply)?**

y-intercept \_\_\_\_\_ slope \_\_\_\_\_ one point ( \_\_\_\_\_ , \_\_\_\_\_ ) a second point: ( \_\_\_\_\_ , \_\_\_\_\_ )

a. Write an equation to model the situation.

b. Use your equation to find the altitude of the plane after 5 minutes.

2. Suppose you receive \$100 for a graduation present, and you deposit it in a savings account. Then each week thereafter, you add \$5 to the account but no interest is earned. The amount in the account is a function of the number of weeks that have passed.

**Identify the variables in this situation:**  $x =$  \_\_\_\_\_  $y =$  \_\_\_\_\_

**What is the given information in this problem (find all that apply)?**

y-intercept \_\_\_\_\_ slope \_\_\_\_\_ one point ( \_\_\_\_\_ , \_\_\_\_\_ ) a second point: ( \_\_\_\_\_ , \_\_\_\_\_ )

- a. Find an equation for the amount  $y$  you have after  $x$  weeks.

- b. Use your equation to find when you will have \$310 in the account.

**Problem:** A delivery company charges \$5 per package plus \$2 per pound. Write an equation for finding the cost of delivering a package. Use the equation to make a table for the cost of delivering packages that weigh 1, 2, 3, 4, and 5 pounds.

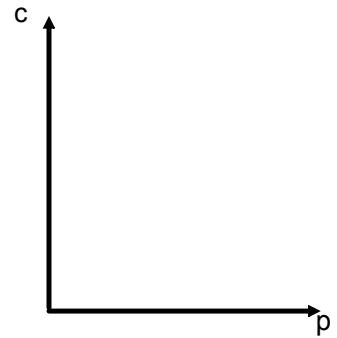
Step 1: Write the equation

Let  $p$  = number of pounds

Let  $C$  = cost

$C = \underline{\hspace{1cm}}p + \underline{\hspace{1cm}}$

$p$ (pounds)	$C$



A cell phone company charges a monthly fee of \$55 plus a .10 charge per text. Write an equation that can be used to find the monthly cost, **C**, for **x** amount of texts.

How much will the cell phone company charge for 200 texts this month?

If you paid \$110 bill this month, how many texts did you send?

It has been observed that a particular plant's growth is directly proportional to time. It measured **2 cm** when it arrived at the nursery and **2.5 cm exactly one week later**. If the plant continues to grow at this rate, determine the function that represents the plant's growth and graph it.

A car rental charge is \$100 per day plus \$0.30 per mile travelled. Determine the equation of the line that represents the daily cost by the number of miles travelled and graph it. If a total of 300 miles was travelled in one day, how much is the rental company going to receive as a payment?



When digging into the earth, the temperature rises according to the following linear equation:

$$t = 15 + 0.01 h.$$

$t$  is the increase in temperature in degrees and  $h$  is the depth in meters.

Calculate:

1. What the temperature will be at 100 m depth?
2. Based on this equation, at what depth would there be a temperature of 100 °C?

Mathnificent is a math tutoring service. The first year it was open, it had 9 students. If 7 new students enroll each year, which of the following equations represents how many students will be enrolled in  $x$  years?

**A**  $y = 7x - 9$

**B**  $y = 7x + 9$

**C**  $y = 9x + 7$

**D**  $y = 9x - 7$

A study was done to investigate the population of polar bears over time. The correlating linear model is shown below, where  $x$  represents the number of years after 1955, and  $y$  represents the number of polar bears. Interpret the  $y$ -intercept.

$$y = 5,000 + 500x$$

- A** There were 10,000 polar bears in 1955.
- B** There were 1,000 polar bears in 1955.
- C** There were 500 polar bears in 1955.
- D** There were 5,000 polar bears in 1955.

A local animal shelter started the week with 45 kittens available for adoption. The rate of adoptions of kittens was consistent for the first three days of the week. After those three days, 36 kittens were still available for adoption.

In a linear model of this situation, which of the following statements applies?

- A** An additional day of adoptions is associated with an additional 9 kittens adopted.
- B** An additional day of adoptions is associated with an additional 6 kittens adopted.
- C** An additional day of adoptions is associated with an additional 1 kitten adopted.
- D** An additional day of adoptions is associated with an additional 3 kittens adopted.

Rhett put up ten posters in his neighborhood and handed out fliers at a local grocery store each with a photo of his lost puppy. Rhett paid \$2 per poster and \$0.20 per flier to print.

If  $x$  represents the number of fliers he handed out at the grocery store, which of the following equations can be used to find how much it cost Rhett to search for his lost puppy?

**A**  $y = 2x + 0.20$

**B**  $y = 0.20x + 2$

**C**  $y = 20x + 0.20$

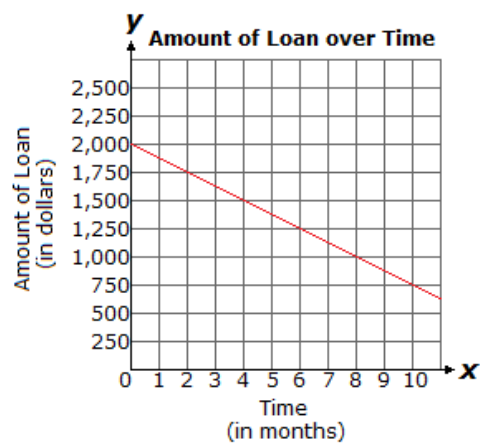
**D**  $y = 0.20x + 20$

A company developed the following linear model to help budget annual expenses over time. In this model,  $x$  represents the number of years after 2009, and  $y$  represents the expense budget (in dollars). Interpret the  $y$ -intercept.

$$y = 189,785 + 37,896x$$

- A** The company's expense budget for 2008 was \$189,785.
- B** The company's expense budget for 2009 was \$37,896.
- C** The company's expense budget for 2009 was \$189,785.
- D** The company's expense budget for 2008 was \$37,896.

Amanda borrowed money from her dad. She has started to pay back her loan, without interest. The amount of the loan she has remaining after each month is represented on the graph below.



What is the initial value of the data in the graph?

- A** \$1,875
- B** \$750
- C** \$125
- D** \$2,000

# Work Period

## CRCT Workout

Pg. 79 (3-6)

Pg. 80 (1-5)



**Write an equation for each problem.**

3. Horace earns \$12 per hour and gets \$6 each day for gas. Write an equation that can be used to find what he gets,  $T$ , if he works  $h$  hours in one day.
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4. Lisa charges \$25 per hour plus \$17 for designing note cards. Write an equation that can be used to find the total charge,  $C$ , if Lisa works  $h$  hours designing the note cards.
- 

5. A company charges \$0.50 per mile plus \$10 for delivering groceries. Write an equation that can be used to find the total cost,  $C$ , for delivering groceries  $m$  miles away.
- 

6. A cell phone company charges \$35 per month plus \$0.02 per minute. Write an equation that can be used to find the monthly cost,  $C$ , for  $m$  minutes in calls.
-

Use this situation for questions 1–5.

Nancy started a delivery service. She charges \$8 per order plus \$0.15 per mile to deliver.

1. How much will Nancy charge for delivering 12 miles away?
  - A. \$9.80
  - B. \$9.30
  - C. \$8.30
  - D. \$8.15
  
2. How much will Nancy charge for delivering 16 miles away?
  - A. \$10.50
  - B. \$10.40
  - C. \$10.39
  - D. \$10.38
  
3. How much will Nancy charge for delivering 33 miles away?
  - A. \$12.83
  - B. \$12.85
  - C. \$12.95
  - D. \$13.90
  
4. If  $m$  represents the number of miles and  $C$  is the cost of delivery, which equation relates the total cost to the number of miles?
  - A.  $C = 8m - 0.15$
  - B.  $C = 8m + 0.15$
  - C.  $C = 0.15m - 8$
  - D.  $C = 0.15m + 8$

5. Which table shows the function that relates the number of miles,  $m$ , and the cost of delivery,  $C$ ?

A.

$m$	$C$
1	8.15
2	8.30
3	8.45
4	8.60
5	8.75

B.

$m$	$C$
1	8.15
2	8.30
3	8.45
4	9.00
5	9.15

C.

$m$	$C$
1	9.50
2	11.00
3	12.50
4	14.00
5	15.50

D.

$m$	$C$
1	0.15
2	0.30
3	0.45
4	0.60
5	0.75

## Attachments

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MM3 - Week 6.doc