

SLOPE-INTERCEPT FORM: PART II

Manny needs to write an equation in slope-intercept form to represent the linear relationship between x and y in the table shown at the right.

x	0	1	4	11	18
y	6	2	-10	-38	-66

- Describe how Manny can find m , the slope.
- Describe how Manny can find b , the y -intercept.
- Write an equation to represent the relationship.

In 1-4, write an equation in slope-intercept form to represent each linear relationship.

1.

x	-5	0	5	10
y	-0.25	6	12.25	18.5

m : _____ b : _____

equation: _____

2.

x	2	4	6	8
y	50	90	130	170

m : _____ b : _____

equation: _____

3.

x	3	6	9	12
y	-6	-12	-18	-24

m : _____ b : _____

equation: _____

4.

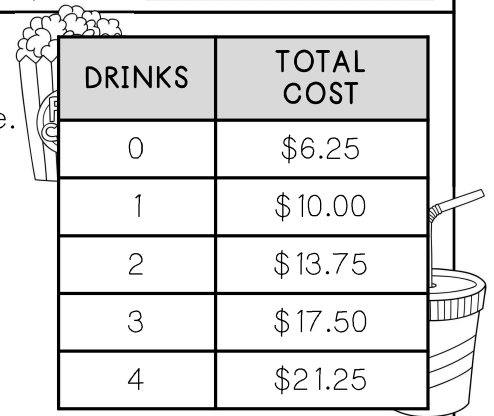
x	0	1	2	3
y	1	$1\frac{1}{5}$	$1\frac{2}{5}$	$1\frac{3}{5}$

m : _____ b : _____

equation: _____

5. Luke's family goes to the movies and purchases a large popcorn. They are debating whether to purchase any drinks. The table shows the total cost based on the number of drinks they decide to purchase.

- Find the slope and explain what it represents.
- Find the y -intercept and explain what it represents.
- Write an equation in slope-intercept form: _____



DRINKS	TOTAL COST
0	\$6.25
1	\$10.00
2	\$13.75
3	\$17.50
4	\$21.25

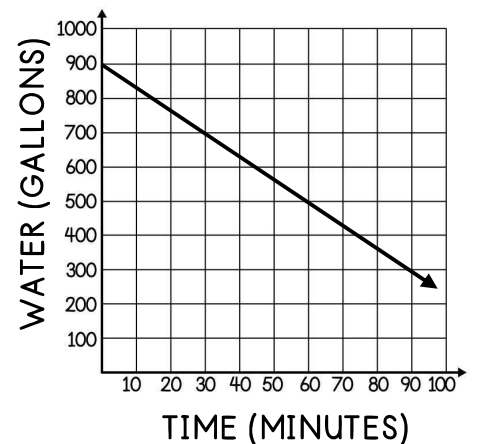
In 6-9, write an equation in slope-intercept form to represent the given situation.

6. At the end of the day, a pizzeria turns off its pizza oven. The table shows the linear relationship between the temperature of the oven and the first five minutes after it was turned off.

MINUTES	TEMPERATURE (°F)
1	425
2	400
3	375
4	350
5	325

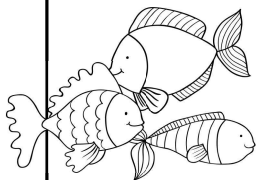
m: _____ b: _____ equation: _____

7. The graph shows the linear relationship between the number of gallons of water remaining in a storage tank and the number of minutes it has been draining.



m: _____ b: _____ equation: _____

8. Carly wants to buy some fish to keep in her room. At a local pet store, customers can pay \$12.50 for a fish tank and \$0.20 for each fish they purchase. Write an equation to represent the relationship between t , the total cost and n , the number of fish purchased.



m: _____ b: _____
equation: _____

9. Danny is diving for rings at the bottom of the pool and is 8.7 feet below the surface of the water. He grabs a ring and ascends 1.3 feet per second. Write an equation to represent the relationship between s , the number of seconds and f , Danny's depth in feet relative to the surface of the water.

m: _____ b: _____
equation: _____

10. A karate academy charges a monthly membership fee plus an additional fee per karate class. The table shows the linear relationship between the number of karate classes taken and the total cost including the membership fee. Find the error in each statement and rewrite them to make them true.

# OF CLASSES	1	5	8	14	20
TOTAL COST	36	60	78	114	150

- The cost of each class is \$8.
- The monthly membership fee is \$36.
- A student who attended 30 classes would pay \$220.

SLOPE-INTERCEPT FORM: PART II

In 1-2, write an equation in slope-intercept form to represent each linear relationship.

1.

x	0	5	10	15
y	-2	40.5	83	125.5

m: _____ b: _____

equation: _____

2.

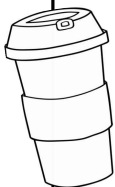
x	3	6	9	12
y	5	-1	-7	-13

m: _____ b: _____

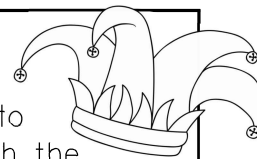
equation: _____

Apply your knowledge of slope-intercept form to answer each of the following questions.

3. Mia has \$50 on a gift card to her favorite coffee shop. Each time she visits the coffee shop she spends \$3.75 on her favorite drink. Write an equation to represent the relationship between n , the number of times she visits the coffee shop, and b , the total balance on her gift card.



4. A magician charges a \$30 fee to cover travel and expenses, plus \$19.99 per hour. Write an equation to represent the relationship between h , the number of hours, and t , the total charge for the magician.

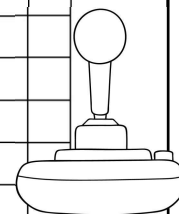
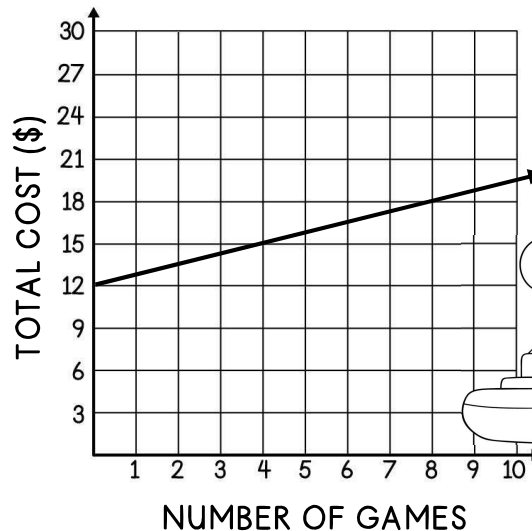


Robert pays for his family to go to the arcade. He pays an entrance fee for his group and an additional amount per game that his family plays as shown in the graph. Use the graph to answer 5-7.

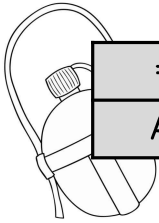
5. Find the slope and interpret its meaning.

6. Find the y-intercept and interpret its meaning.

7. Write an equation to represent the relationship between x , the number of games and y , the total cost.



8. A hiker hikes at a steady rate throughout the day on a mountain. Which student wrote a correct equation to represent the linear relationship shown on the table between x , the number of hours hiked and y , the current altitude of the climber?



# HOURS HIKED	1	2	3	5	8
ALTITUDE (FEET)	5,650	5,525	5,400	5,150	4,775

MATEO

$$y = 125x + 5,775$$

JULIE

$$y = -125x + 5,775$$

OLIVER

$$y = -125x + 5,650$$

The table shows the linear relationship between the number of pages left to read in a novel and the number of hours a student has already spent reading the novel. Mark each statement as true or false. If false, rewrite the statement correctly.

_____ 9. The student reads at a rate of 48 pages per hour.

_____ 10. The number of pages in the novel is 644.

_____ 11. The situation can be represented by the equation $y = -48x + 692$.

HOURS READ	PAGES REMAINING
1	644
4	500
8	308
12	116
14	20