

1-9 Reteaching

Tables, equations, and graphs are some of the ways that a relationship between two quantities can be represented. You can use the information provided by one representation to produce one of the other representations; for example, you can use data from a table to produce a graph. You can also use any of the representations to draw conclusions about the relationship.

Problem

Are (2, 11) and (5, 3) solutions of the equation $y = 3x + 5$?

For each ordered pair, you can substitute the x - and y - coordinates into the equation for x and y and then simplify to see if the values satisfy the equation.

For (2, 11):

$$11 = 3(2) + 5$$

$$11 = 11$$

Substitute for x and y .

Multiply and then add.

For (5, 3):

$$3 = 3(5) + 5$$

$$3 \neq 20$$

Since both sides of the equation have the same value, the ordered pair (2, 11) is a solution of the equation $y = 3x + 5$. Since the two sides of the equation have different values, the ordered pair (5, 3) is not a solution of the equation $y = 3x + 5$.

Problem

The table shows the relationship between the number of hours Kaya works at her job and the amount of pay she receives. Extend the pattern. How much money would Kaya earn if she worked 40 hours?

Hours Worked	Money Earned (\$)
3	37.50
6	75
9	112.50
12	150

Method 1: Write an equation.

$$y = 12.50x$$

$$= 12.50(40)$$

$$= 500$$

Kaya earns \$12.50 per hour.

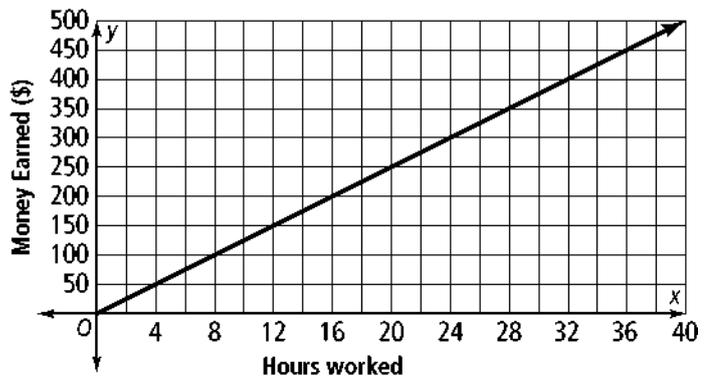
Substitute 40 for x .

Simplify.

She would earn \$500 in 40 hours.

Method 2: Draw a graph.

She would earn \$500 in 40 hours.



Exercises

Tell whether the equation has the given ordered pair as a solution.

1. $y = x - 7$; (2, -5)

2. $y = x + 6$; (-5, 11)

3. $y = -x + 1$; (-1, 0)

4. $y = -5x$; (-3, -15)

5. $y = x - 8$; (7, -1)

6.

Use a table, an equation, and a graph to represent each relationship.

7. Tickets to the fair cost \$17.

8. Brian is 5 years older than Sam.

Use the table to draw a graph and answer the question.

9. The table shows Jake's earnings for the number of cakes he baked. What are his earnings for baking 75 cakes?

Cakes	Earnings (\$)
5	120
10	240
15	360

Use the table to write an equation and answer the question.

10. The table shows the number of miles that Kate runs on a weekly basis while training for a race. How many total miles will she have run after 15 weeks?

Training Weeks	Miles Run
1	40
2	80
3	120

11. The table shows the amount of money Kevin receives for items that he sells. How much will he earn if he sells 30 items?

Items Sold	Earnings (\$)
15	1125
20	1500
25	1875

(1) yes, (2) no, (3) no, (4) no, (5) yes, (6) yes, (7) $C = 17t$, (8) $B = S + 5$, (9) Jake's earnings are \$1800 for 75 cakes, (10) Kate will have run 600 miles after 15 weeks, (11) Kevin will earn \$2250 if he sells 30 items.

Lesson 1-9 Additional Practice

Tell whether the given ordered pair is a solution of the equation.

1. $y = -x - 2$; $(1, -3)$ 2. $y = x + \frac{4}{5}$; $(\frac{6}{5}, 2)$ 3. $y = 3(5 - x)$; $(3, 6)$

4. A pizzeria charges \$12 for a large pizza, plus a \$3 delivery fee. Use a table, an equation, and a graph to describe the relationship between the number of pizzas delivered and the total cost.

Use the table to draw a graph and answer the question.

5. The table shows the total cost of apples at a roadside stand. What is the cost of 7 bushels of apples?

Apple Bushels

Bushels, x	Dollars, y
1	5
2	10
3	15
4	20

6. a. Extend the table below to find the amount of time it will take you to make 11 and 13 ski runs.

- b. Draw a graph and write an equation to show the relationship between the number of runs and hours.

Skiing						
Hours, h	0.5	1	1.5	2	2.5	3
Ski Runs, r	1	2	3	4		