

LESSON
3-3

Practice B

Writing Functions

Determine a relationship between the x - and y -values. Write an equation.

1. _____ 2. $\{(2, 3), (3, 5), (4, 7), (5, 9)\}$

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

Identify the independent and dependent variables in each situation.

- | | |
|---|---|
| 3. Ice cream sales increase when the temperature rises. | 4. Food for the catered party costs \$12.75 per person. |
| I: _____ | I: _____ |
| D: _____ | D: _____ |

Identify the independent and dependent variables. Write a rule in function notation for each situation.

- | | |
|---|---------------------------------------|
| 5. Carson charges \$7 per hour for yard work. | 6. Kay donates twice what Ed donates. |
|---|---------------------------------------|

_____	_____
_____	_____
_____	_____

Evaluate each function for the given input values.

7. For $f(x) = 5x + 1$, find $f(x)$ when $x = 2$ and when $x = 3$. _____
8. For $g(x) = -4x$, find $g(x)$ when $x = -6$ and when $x = 2$. _____
9. For $h(x) = x - 3$, find $h(x)$ when $x = 3$ and when $x = 1$. _____

Complete the following.

10. An aerobics class is being offered once a week for 6 weeks. The registration fee is \$15 and the cost for each class attended is \$10. Write a function rule to describe the total cost of the class. Find a reasonable domain and range for the function.
- _____
- _____
- _____

Problem Solving

1-3. Possible answers given.

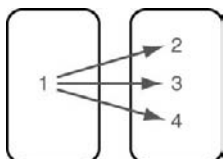
1. D: {6, 7, 8}; R: {1, 2}; no
2. D: {6, 9, 12, 15, 18}; R: {8, 10, 10.5, 11}; yes
3. D: {1, 2, 3, 4}; R: {50, 100, 150}; yes
4. D: {0, 1, 2, 3, 4, 5}; R: {2, 4.5, 7, 9.5, 12, 14.5}; yes
5. B
6. J

Reading Strategies

1.

x	1	2	3	4
y	1	2	3	4

2.



3. because the domain value 1 is paired with more than one range value.
4. no
5. no
6. yes

3-3 WRITING FUNCTIONS

Practice A

1. $y = 3x$
2. $y = x - 3$
3. $y = -3x$
4. independent; dependent
5. dependent; independent
6. 10; 2
7. -8; 2
8. -7; 20
9. $f(b) = 10b$; D: {0, 1, 2, 3, 4, 5, 6, 7}; R: {0, 10, 20, 30, 40, 50, 60, 70}
10. $f(h) = 45 + 5h$; D: {1, 2, 3, 4}; R: {50, 55, 60, 65}

Practice B

1. $y = x + 3$
2. $y = 2x - 1$
3. temperature; ice cream sales
4. number of people; cost of food
5. I: number of hours; D: total charge; $f(h) = 7h$

6. I: Ed's donation; D: Kay's donation; $f(d) = 2d$
7. 11; 16
8. 24; -8
9. 0; -2
10. $f(x) = 15 + 10x$; D: {0, 1, 2, 3, 4, 5, 6}; R: {15, 25, 35, 45, 55, 65, 75}

Practice C

1. $y = x^2$
2. $y = 2x - 2$
3. population; amount of money
4. purchase price; amount of sales tax
5. I: number of students; D: money earned; $f(s) = 5 + 4.5s$
6. I: Jeb's brother's TV time; D: Jeb's TV time; $f(b) = b - 2$
7. 14; -1
8. 30; -18
9. 0; 45
10. $f(x) = 8.50 + 4.75x$; D: {0, 1, 2, 3, 4, 5, 6, 7, 8}; R: {8.50, 13.25, 18.00, 22.75, 27.50, 32.25, 37.00, 41.75, 46.50}

Review for Mastery

1. The amount of food eaten depends on the size of the animal.; pounds of food; size of animal
2. The number of firefighters depends on the size of the fire.; number of firefighters; size of the fire
3. The temperature of the water depends on the time it has been on the stove.; temperature of the water; time on the stove
4. The amount of the restaurant bill depends on the number of meals ordered.; amount of the restaurant bill; number of meals ordered
5. total charge; number of hours; $f(x) = 90x$; \$180; \$675
6. total charge; number of hours; $f(x) = 295 + 95(x - 1)$; \$508.75; \$960

Challenge

1. 104°F
2. Answers may vary. Sample answer: the 112°F may have been a "heat index" reading.