1. Write an equation to represent the function shown in the table. (Example 1)

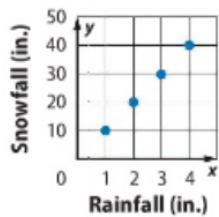| Input (x)	0	1	2	3	4
Output (y)	0	4	8	12	16

$y = 4x$

2. Graph the function $y = x + 3$. (Example 2)
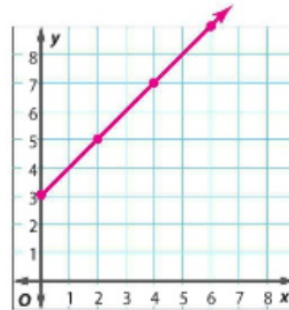
3. The graph below shows the number of inches of rainfall x equivalent to inches of snow y. Make a function table for the input-output values. Write an equation from the graph that can be used to find the total inches of snow y equivalent to inches of rain x. (Examples 3 and 4)

Rain (x)	Snow (y)
1	10
2	20
3	30
4	40

$y = 10x$

4. 🄠 **Building on the Essential Question** How are ordered pairs of a function used to create the graph of the function?

Sample answer: Each set of ordered pairs can be plotted on a coordinate plane. A line is then drawn through each point.

Rate Yourself!

How confident are you a finding the equation of function? Check the bo that applies.

For more help, go online to access a Personal Tutor.

FOLDABLES Time to update your F

Write an equation to represent each function. (Example 1)

1.

Input (x)	1	2	3	4	5
Output (y)	6	12	18	24	30

$y = 6x$

2.

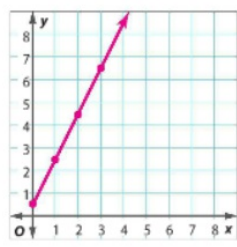| Input (x)	0	1	2	3	4
Output (y)	0	15	30	45	60

$y = 15x$

Graph each equation. (Example 2)

3. $y = x + 4$
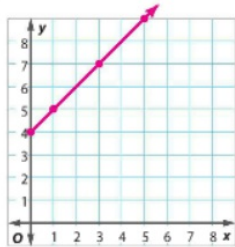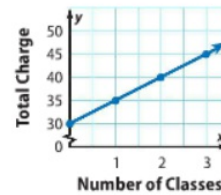

4. $y = 2x + 0.5$

5. $y = 0.5x + 1$

6. The graph shows the charges for a health club in a month. Make a function table for the input-output values. Write an equation that can be used to find the total charge y for the number of x classes. (Examples 3 and 4)

Input (x)	0	1	2	3
Output (y)	30	35	40	45

$y = 30 + 5x$

Number of Classes

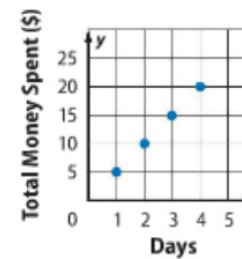**7.** The graph shows the amount of money Pasha spent on lunch. Make a function table for the input-output values. Write an equation that can be used to find the money spent y for any number of days x. (Examples 3 and 4)

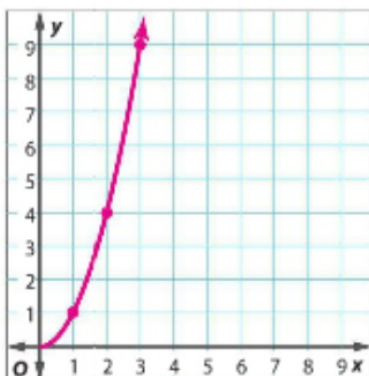| Input (x)	1	2	3	4
Output (y)	5	10	15	20

$y = 5x$

Days

8. **CCSS** **Multiple Representations** The table shows the area of a square with the given side length.

Side Length (x)	Area of Square (y)
1	1
2	4
3	9
4	16

a. **Variables** Write an equation that could represent the function table.

$y = x \cdot x$ or $y = x^2$

b. **Graphs** Graph the function.

c. **Words** Is this a linear function? Explain.

no; The graph is curved; it does not form a line.

H.O.T. Problems   Higher Order Thinking

9. **CCSS** **Model with Mathematics** Write about a real-world situation that can be represented by the equation $y = 7x$. Be sure to explain what the variables represent in the situation. Sample answer: Ray is saving $7 per week to buy a new DVD player. The variable y represents the total amount he has saved. The variable x represents the number of weeks.

H.O.T. Problems Higher Order Thinking

9. **CCSS** **Model with Mathematics** Write about a real-world situation that can be represented by the equation $y = 7x$. Be sure to explain what the variables represent in the situation. **Sample answer: Ray is saving $7 per week to buy a new DVD player. The variable y represents the total amount he has saved. The variable x represents the number of weeks.**

10. **CCSS** **Persevere with Problems** Write an equation to represent the function in the table shown below. $y = \frac{1}{2}x - 3$

Input (x)	6	8	10	12	14	16
Output (y)	0	1	2	3	4	5

11. **CCSS** **Persevere with Problems** The inverse of a relationship can be found by switching the coordinates in each ordered pair. Complete the table for three input and output values of $y = x + 3$ and its inverse. Then use the table to write an equation of the inverse of $y = x + 3$. $y = x - 3$

Sample answer

$y = x + 3$			
Input (x)	1	2	3
Output (y)	4	5	6

Inverse of $y = x + 3$			
Input (x)	4	5	6
Output (y)	1	2	3