

Patterns and Equations

You can use an equation to complete a table. The equation shows the pattern in the table, or how the x - and y -values are related. For example:

The equation is $y = 3x + 7$.

x	2	4	10	20
y				

As the table shows, the x -value is already given. What is y when $x = 2$? Plug the x -value into the equation to find out.

$$y = 3x + 7$$

$$y = 3(2) + 7$$

$$y = 6 + 7$$

$$y = 13$$

Use the same process to complete the rest of the table.

x	2	4	10	20
y	13	19	37	67

Complete each table.

1. $y = 4x + 6$

x	3	8	10	50
y				

2. $y = 8x - 9$

x	2	4	6	8
y				

3. $y = \frac{1}{4}x + 5$

x	16	20	36	48
y				

4. **Number Sense** If the equation is $y = 1x - 25$, will the value of y increase or decrease as x increases? _____

Patterns and Equations

Complete each table.

1. $y = 2x + 4$

x	1	2	3	4
y				

2. $y = 4x - 3$

x	1	4	6	7
y				

3. $y = 10x - 5$

x	2	4	5	10
y				

4. $y = 9x + 1$

x	2	3	4	5
y				

5. **Number Sense** Is 5 a reasonable solution for y when $x = 1$ in the equation $y = 2x + 6$? Why or why not?

6. Whitney is making a quilt. She is using blue and red squares of fabric. The equation $r = 2b - 1$ represents the number of red squares she uses for each blue square. If Whitney uses 15 blue squares, how many red squares will she use?

Test Prep

7. Which number completes the table for $y = 5x - 10$?

A. 80

B. 85

C. 90

D. 95

x	5	10	15	20
y	15	40	65	

8. **Writing in Math** Explain how finding patterns can help you solve equations.
