

### Objective 73

Determine an equation in the form  $y = mx$  that represents a table of values

**PROBLEM**

Write an equation in the form  $y = mx$  that generates the values in the table.

$x$	-8	-4	0	4	8
$y$	2	1	0	-1	-2

**STEP 1**

Substitute any nonzero pair of corresponding  $x$ - and  $y$ -values from the table into the equation  $y = mx$ .

$x$	-8	-4	0	4	8
$y$	2	1	0	-1	-2

Substituting  $-8$  for  $x$  and  $2$  for  $y$  in the equation  $y = mx$  results in the equation  $2 = m(-8)$ .

**STEP 2**

Solve the equation from Step 1 for  $m$ .

$$2 = m(-8)$$

$$\frac{2}{-8} = \frac{m(-8)}{-8}$$

$$\frac{2}{-8} = \frac{m(-\cancel{8})^1}{-\cancel{8}^1}$$

$$\frac{2}{-8} = m$$

$$-\frac{1}{4} = m$$

**STEP 3**

Substitute  $-\frac{1}{4}$  for  $m$  in the equation  $y = mx$ .

$$y = mx$$

$$y = -\frac{1}{4}x$$

**ANSWER**

$$y = -\frac{1}{4}x$$

**Guided Practice:**

Which equation generates the values in the table?

$x$	-2	0	2	4	6
$y$	-8	0	8	16	24

[A]  $y = 4x$

[B]  $y = 16x$

[C]  $y = -4x$

[D]  $y = \frac{1}{4}x$

Write an equation in the form  $y = mx$  that generates the values in the table.

$x$	-2	0	2	4	6
$y$	-1	0	1	2	3

**Independent Practice:**

Which equation generates the values in the table?

$x$	-8	-4	0	4	8
$y$	2	1	0	-1	-2

- [A]  $y = -4x$       [B]  $y = -\frac{1}{4}x$       [C]  $y = \frac{1}{4}x$       [D]  $y = -x$

Write an equation in the form  $y = mx$  that generates the values in the table.

$x$	-6	-3	0	3	6
$y$	2	1	0	-1	-2