

**guided notes**

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Module 16** Solving Rational Equations  
**Lesson 3** Solving Problems Using Inverse Variation

**Lesson Objectives**

- Determine whether a function is an inverse variation, identify the constant of variation, and write the equation.
- Solve problems using inverse variation.

An inverse variation is a function in which the product  $xy$  is a

\_\_\_\_\_.

The nonzero constant is called the \_\_\_\_\_, which

we represent with the variable  $k$ .

For an inverse variation function  $xy = k$ , we say  $y$  \_\_\_\_\_

as  $x$ .

**1** Does  $y$  vary inversely as  $x$ ? Explain.

$x$	$y$
4	9
-2	-18
72	0.5

**2** Write an equation for the inverse variation.

$x$	$y$
4	9
-2	-18
72	0.5

3 Is this an inverse variation? Explain.

x	y
1	0
-2	0
0	2

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4 The frequency of the vibrations of a guitar string varies inversely as the string's length. A 20-inch vibrates at a frequency of 288 cycles per second. What is the frequency of 24-inch guitar string?

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5 Lizzie has enough money to buy six books priced at \$3.25 each. How many books priced at \$1.50 can she buy with the same amount of money?

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