

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Module 16** Solving Rational Equations  
**Lesson 2** Solving Problems Using Direct Variation

**additional practice**

**Does  $y$  vary directly as  $x$ ? If so, find the constant of variation and write the direct variation function.**

1.

$x$	$y$
1	-6
2	12
6	36

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2.

$x$	$y$
$-\frac{3}{5}$	$-\frac{12}{5}$
$\frac{1}{2}$	2
$\frac{2}{3}$	$\frac{8}{3}$

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3.

$x$	$y$
-42	-6
-35	5
21	-3

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4.

$x$	$y$
-9	-12
15	20
21	28

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**Solve.**

5. The variable  $y$  varies directly as  $x$ :  $y$  is 4 when  $x$  is 6. Find  $y$  when  $x$  is 15.

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6. The variable  $y$  varies directly as  $x$ :  $y$  is -2 when  $x$  is 12. Find  $x$  when  $y$  is 30.

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7. The variable  $y$  varies directly as  $x$ :  $y$  is -8 when  $x$  is 10. Find  $x$  when  $y$  is -2.

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8. The variable  $y$  varies directly as  $x$ :  $y$  is 20 when  $x$  is 6. Find  $x$  when  $y$  is 12.

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**Solve using direct variation.**

9. Marcus can walk two miles in 20 minutes. How long will it take him to walk 3.5 miles?

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10. Rodriguez exchanged 300 American dollars for 190 British pounds and spent 152 pounds while in Great Britain. He then exchanged the amount he had left for American dollars. How many American dollars did he receive?

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**11.** If Krista receives \$150 commission for \$2,500 sales, how much commission will she receive for \$4,500 in sales?

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**13.** If 30 gallons of water are used every five minutes in a public water fountain, how many gallons are used in 14 minutes?

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**15.** If  $1\frac{3}{4}$  gallons of paint are needed to paint a room with a wall area of  $266 \text{ ft}^2$ , what square area can be painted with two gallons of paint?

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**17.** If Phillip travels 294 miles in  $5\frac{1}{4}$  hours, how many hours will it take him to travel 392 miles?

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**19.** If Linda's pay for six hours work is \$75, how much will she make in 16 hours?

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**12.** Three cups of flour are required to make a cake that will feed 20 people. How many cups of flour are needed to bake a cake that will feed 32 people?

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**14.** If Lisa can talk 40 minutes for \$2.40, what will it cost her to talk 75 minutes?

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**16.** If tickets cost \$441 for 18 people, how much will tickets cost for 24 people?

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**18.** If Clint's heart beats 50 times in  $\frac{2}{3}$  minute, how many times will it beat in one minute?

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**20.** The circumference of a circle is found by the formula  $C = \pi d$ , where  $d$  is the diameter of the circle. Does circumference vary directly as diameter? If so, what is the constant of variation?

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