Algebra

Skill 4 - 3H

Use Related Equations: Multiply and Divide

Multiplication and division are opposite or inverse *operations*. A fact family is a set of related multiplication and division equations that use the same numbers.

This is the fact family for 3, 7, 21

$$7 \times 3 = 21$$

$$21 \div 3 = 7$$

$$3 \times 7 = 21$$

$$21 \div 7 = 3$$

Example

Find the value of the variable. Use the inverse operation to write a related equation.

$$b \times 2 = 8$$

 $4 \times 2 = 8$

$$b = 4$$

Use the inverse operation (division) to write a related equation.

$$8 \div 2 = 4$$

Notice that the quotient of the related division equation is the value of the variable in the multiplication equation.

Directions: Find the value of the variable. Then, write a related equation. The first one is done for you.

1.	3 x a = 12	write a related equation.	2.	$2 \times n = 6$	write a related equation.
	3 x 4 = 12	12 ÷ 3 = 4			
	a = 4				
3.	2 x a = 8	write a related equation.	4.	n x 3 = 15	write a related equation.
5.	7 x n = 21	write a related equation.	6.	c x 3 = 18	write a related equation.

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Use Related Equations: Multiply and Divide

Directions: Find the value of the variable. Then, write a related equation.

Direct	cions. I ma the ve	ilue of the variable. Ther	i, wille	a related equation	1.
7.	a x 8 = 16	write a related equation.	8.	$3 \times p = 12$	write a related equation.
9.	a x 5 = 20	write a related equation.	10.	n x 6 = 18	write a related equation.
11.	7 x n = 21	write a related equation.	12.	c x 7 = 28	write a related equation.
13.	2 x a = 14	write a related equation.	14.	p x 3 = 15	write a related equation.
15.	a x 6 = 24	write a related equation.	16.	n x 8 = 16	write a related equation.
17.	5 x n = 10	write a related equation.	18.	c x 6 = 12	write a related equation.
19.	5 x n = 25	write a related equation.	20.	c x 6 = 18	write a related equation.

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Use Related Equations: Divide and Multiply

Directions: Find the value of the variable. Then, write a related equation.

Jiis. I illu tile ve		i, wille	a relateu equation	
$4 \div n = 7$	write a related equation.	22.	$15 \div n = 5$	write a related equation.
6 ÷ a = 3	write a related equation.	24.	n ÷ 5 = 3	write a related equation.
n ÷ 2 = 4	write a related equation.	26.	12 ÷ n = 4	write a related equation.
n ÷ 5 = 3	write a related equation.	28.	12 ÷ n = 3	write a related equation.
a ÷ 9 = 3	write a related equation.	30.	<i>n</i> ÷ 6 = 2	write a related equation.
c ÷ 3 = 5	write a related equation.	32.	p ÷ 2 = 7	write a related equation.
p ÷ 4 = 5	write a related equation.	34.	p ÷ 8 = 3	write a related equation.
	$a \div a = 3$ $a \div 2 = 4$ $a \div 9 = 3$ $c \div 3 = 5$ $p \div 4 = 5$	write a related equation. $a \div a = 3$ write a related equation. $a \div 2 = 4$ write a related equation. $a \div 5 = 3$ write a related equation. $a \div 9 = 3$ write a related equation. $a \div 9 = 3$ write a related equation.	write a related equation. 22. $6 \div a = 3$ write a related equation. 24. $n \div 2 = 4$ write a related equation. 26. $n \div 5 = 3$ write a related equation. 28. $a \div 9 = 3$ write a related equation. 30. $c \div 3 = 5$ write a related equation. 32.	$15 \div n = 5$ $6 \div a = 3$ write a related equation. $15 \div n = 5$ $n \div 5 = 3$ $n \div 2 = 4$ write a related equation. $24. n \div 5 = 3$ $12 \div n = 4$ $n \div 5 = 3$ write a related equation. $28. 12 \div n = 3$ $a \div 9 = 3$ write a related equation. $n \div 6 = 2$ $c \div 3 = 5$ write a related equation. $28. n \div 6 = 2$

Answer Key Skill 4 - 3H

Use Related Equations: Multiply and Divide

1.	3 x a = 12	write a related equation.	2.	$2 \times n = 6$	write a related equation.
	3 x 4 = 12	12 ÷ 3 = 4		2 x 3 = 6	6 ÷ 2 = 3
	a = 4			n = 3	
3.	2 x a = 8		4.	n x 3 = 15	
	2 x 4 = 8	8 ÷ 2 = 4		5 x 3 = 15	$15 \div 3 = 5$
	a = 4			n = 5	
5.	$7 \times n = 21$		6.	c x 3 = 18	
	$7 \times 3 = 21$	21 ÷ 7 = 3		$6 \times 3 = 18$	$18 \div 3 = 6$
	n=3			c = 6	
Page		<u> </u>		0 = 0	
7.	a x 8 = 16 2 x 8 = 16 a = 2	16 ÷ 8 = 2	8.	$3 \times p = 12$ $3 \times 4 = 12$ p = 4	12 ÷ 3 = 4
9.	a x 5 = 20 4 x 5 = 20 a = 4	20 ÷ 5 = 4	10.	n x 6 = 18 3 x 6 = 18 n = 3	18 ÷ 6 = 3
11.	7 x n = 21 7 x 3 = 21 n = 3	21 ÷ 7 = 3	12.	c x 7 = 28 4 x 7 = 28 c = 4	28 ÷ 7 = 4
13.	2 x a = 14 2 x 7 = 14 a = 7	14 ÷ 2 = 7	14.	p x 3 = 15 5 x 3 = 15 p = 5	15 ÷ 3 = 5
15.	a x 6 = 24 4 x 6 = 24 a = 4	24 ÷ 6 = 4	16.	n x 8 = 16 2 x 8 = 16 n = 2	16 ÷ 8 = 2
17.	5 x n = 10 5 x 2 = 10 n = 2	10 ÷ 5 = 2	18.	c x 6 = 12 2 x 6 = 12 c = 2	12 ÷ 6 = 2
19.	5 x n = 25 5 x 5 = 25 n = 5	10 ÷ 5 = 2	20.	$c \times 6 = 18$ 3 x 6 = 18 c = 3	18 ÷ 6 = 3

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Use Related Equations: Divide and Multiply

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21.	$14 \div n = 7$	write a related equation.	22.		write a related equation.
	$14 \div 7 = 7$	The second of second		$15 \div n = 5$	a return equation.
	n=2	7 x 2 = 14		$15 \div 3 = 5$	5 x 3 = 15
				n = 3	
23.	$6 \div a = 3$	3 x 2 = 6	24.	$n \div 5 = 3$	3 x 5 = 15
	$6 \div 2 = 3$	3 x 2 = 0		$15 \div 5 = 3$	3 x 3 = 13
	a = 2			n = 15	
25.	$n \div 2 = 4$	4 x 2 = 8	26.	$12 \div n = 4$	
	$8 \div 2 = 4$	7 7 2 - 0		$12 \div 3 = 4$	4 x 3 = 12
	n = 8			n = 3	
27.	$n \div 5 = 3$	3 x 5 = 15	28.	$12 \div n = 3$	
	$15 \div 5 = 3$	0 x 0 = 10		$12 \div 4 = 3$	3 x 4 = 12
	n = 15			<i>n</i> = 4	0 X
29.	a÷9 = 3	3 x 9 = 27	30.	n ÷ 6 = 2	
	$27 \div 9 = 3$ $a = 27$			$12 \div 6 = 2$ n = 12	2 x 6 = 12
31.	c ÷ 3 = 5		32.	p ÷ 2 = 7	
		5 x 3 = 15		$14 \div 2 = 7$	7 x 2 = 14
	$15 \div 3 = 5$ c = 15			p = 14	
33.	p ÷ 4 = 5		34.	p ÷ 8 = 3	
	$ \begin{array}{c} \rho + 4 = 5 \\ 20 \div 4 = 5 \end{array} $	5 x 4 = 20		p - 6 = 3 24 ÷ 8 = 3	3 x 8 = 24
	p = 20	3 7 7 - 20		p = 24	3 7 0 - 24
	p = 20			p = 24	