NAME _____ DATE _____ PERIOD ____

1-10 Study Guide and Intervention

6AF1.1

Solving Multiplication and Division Equations

You can use the following properties to solve multiplication and division equations.

- *Multiplication Property of Equality* — If you multiply each side of an equation by the same number, the two sides remain equal.
- *Division Property of Equality* — If you divide each side of an equation by the same nonzero number, the two sides remain equal.

Example 1 **Solve $19w = 104$. Check your solution.**

$19w = 114$	Write the equation.
$\frac{19w}{19} = \frac{114}{19}$	Divide each side of the equation by 19.
$1w = 6$	19 ÷ 19 = 1 and 114 ÷ 19 = 6.
$w = 6$	Identity Property; $1w = w$

Check

$19w = 114$	Write the original equation.
$19(6) \stackrel{?}{=} 114$	Replace w with 6.
$114 = 114$ ✓	This sentence is true.

Example 2 **Solve $\frac{d}{15} = -9$. Check your solution.**

$\frac{d}{15} = -9$	
$\frac{d}{15}(15) = -9(15)$	Multiply each side of the equation by 15.
$d = -135$	

Check

$\frac{d}{15} = -9$	Write the original equation.
$\frac{-135}{15} \stackrel{?}{=} -9$	Replace d with -135.
$-9 = -9$ ✓	$-135 \div 15 = -9$

Exercises

Solve each equation. Check your solution.

1. $\frac{r}{5} = 6$
2. $2d = 12$
3. $7h = -21$
4. $-8x = 40$
5. $\frac{f}{8} = -6$
6. $\frac{x}{-10} = -7$
7. $17c = -68$
8. $\frac{h}{-11} = 12$
9. $29t = -145$
10. $125 = 5z$
11. $13t = -182$
12. $117 = -39k$