NAME _____ DATE _____ PERIOD _____

1-8 Study Guide and Intervention

Algebra: Equations

An **equation** is a sentence that contains an **equals sign**, $=$. Some equations contain variables. When you replace a variable with a value that results in a true sentence, you **solve** the equation. The value for the variable is the **solution** of the equation.

Example 1 **Solve $m + 12 = 15$ mentally.**

$m + 12 = 15$ Think: What number plus 12 equals 15?
$3 + 12 = 15$ You know that $12 + 3 = 15$.
$m = 3$

The solution is 3.

Example 2 **Solve $14 - p = 6$ using guess and check.**

Guess the value of p, then check it out.

Try 7.	Try 6.	Try 8.
$14 - p \stackrel{?}{=} 6$	$14 - p \stackrel{?}{=} 6$	$14 - p \stackrel{?}{=} 6$
$14 - 7 \neq 6$	$14 - 6 \neq 6$	$14 - 8 = 6$
no	no	yes

The solution is 8 because replacing p with 8 results in a true sentence.

Exercises

Identify the solution of each equation from the list given.

1. $k - 4 = 13$; 16, 17, 18

2. $31 + x = 42$; 9, 10, 11

3. $45 = 24 + k$; 21, 22, 23

4. $m - 12 = 15$; 27, 28, 29

5. $88 = 41 + s$; 46, 47, 48

6. $34 - b = 17$; 16, 17, 18

7. $69 - j = 44$; 25, 26, 27

8. $h + 19 = 56$; 36, 37, 38

Solve each equation mentally.

9. $j + 3 = 9$

10. $m - 5 = 11$

11. $23 + x = 29$

12. $31 - h = 24$

13. $18 = 5 + d$

14. $35 - a = 25$

15. $y - 26 = 3$

16. $14 + n = 19$

17. $100 = 75 + w$

Copyright © Glencoe/McGraw-Hill, a division of The McGraw-Hill Companies, Inc.