ALGEBRA 1

Name KEY

1-8 PRACTICE: AN INTRODUCTION TO EQUATIONS

Determine whether each equation is *true*, *false*, or *open*. Show work when appropriate.

1. $85 + (-10) = 95$

$75 \neq 95$

False

2. $-8(-2) - 7 = 14 - 5$

$16 - 7 = 9$

$9 = 9$

True

3. $5x + 7 = 17$

Open

4. $91 \div (-7) - 5 = 35 \div 7 + 3$

$-13 - 5 = 5 + 3$

$-18 \neq 8$

False

Determine whether the given number is a solution of the equation. SHOW WORK!

5. $8x + 5 = 29;\ x = 3$

$8(3) + 5 \stackrel{?}{=} 29$

$24 + 5 \stackrel{?}{=} 29$

$29 = 29$; YES

6. $5b + 1 = 16;\ b = -3$

$5(-3) + 1 \stackrel{?}{=} 16$

$-15 + 1 \stackrel{?}{=} 16$

$-14 \neq 16$; NO

7. $-6m + 5 = -2;\ m = \frac{1}{2}$

$-6\left(\frac{1}{2}\right) + 5 \stackrel{?}{=} -2$

$-3 + 5 \stackrel{?}{=} -2$

$2 \neq -2$; NO

8. $14 = \frac{1}{3}x + 5;\ x = 27$

$14 \stackrel{?}{=} \frac{1}{3}(27) + 5$

$14 \stackrel{?}{=} 9 + 5$

$14 = 14$; YES

Translate each equation into an algebraic sentence.

9. The sum of 4x and -3 is 8. $4x + (-3) = 8$

10. The product of 9 and the sum of 6 and x is 1. $9(6 + x) = 1$

Use a table to find the solution of each equation.

11. $2x - 1 = 11$

x	$2x - 1 = 11$	Value
2	$2(2) - 1 = 4 - 1 = 3$	3
3	$2(3) - 1 = 6 - 1 = 5$	5
4	$2(4) - 1 = 8 - 1 = 7$	7
6	$2(6) - 1 = 12 - 1 = 11$	11 ✓

Soln: $x = 6$

12. $8 - 5w = -12$

w	$8 - 5w = -12$	Value
1	$8 - 5(1) = 8 - 5 = 3$	3
5	$8 - 5(5) = 8 - 25 = -17$	-17
3	$8 - 5(3) = 8 - 15 = -7$	-7
4	$8 - 5(4) = 8 - 20 = -12$	-12 ✓

Soln $w = 4$

13. Evaluate $pm - n$ *if* $m = 4, n = -1$ *and* $p = -\frac{1}{2}$.

$= (-\frac{1}{2})(4) - (-1)$

$= -2 + 1$

$= -1$