Name KEY Date _____ Class _____

Writing and Solving One-Variable Equations

Write an equation to represent each relationship. Then solve the equation.

1. Four times a number minus 5 is the same as twice the number plus 3.

$4x-5 = 2x+3$

$+5 \quad +5$

$4x = 2x+8$

$-2x \quad -2x$

$\frac{2x}{2} = \frac{8}{2}$

$x = 4$

2. Seven minus 2 times a number is the same as the number minus 2.

$7-2x = x-2$

$+2 \quad +2$

$9-2x = x$

$+2x \quad +2x$

$\frac{9}{3} = \frac{3x}{3}$

$3 = x$

3. Ten less than 3 times a number is the same as the number plus 4.

$3x-10 = x+4$

$+10 \quad +10$

$3x = x+14$

$-x \quad -x$

$\frac{2x}{2} = \frac{14}{2}$

$x = 7$

4. Six times a number plus 4 is the same as the number minus 11.

$6x+4 = x-11$

$+11 \quad +11$

$6x+15 = x$

$-6x \quad -6x$

$\frac{15}{-5} = \frac{-5x}{-5}$

$-3 = x$

5. Twelve decreased by twice a number is the same as 8 times the sum of the number plus 4. What is the number?

$12-2x = 8(x+4)$

$12-2x = 8x+32$

$-12 \quad -12$

$-2x = 8x+20$

$-8x \quad -8x$

$\frac{-10x}{-10} = \frac{20}{-10}$

$x = -2$

6. Three added to 8 times a number is the same as 3 times the value of 2 times the number minus 1. What is the number?

$3+8x = 3(2x-1)$

$3+8x = 6x-3$

$+3 \quad +3$

$6+8x = 6x$

$-8x \quad -8x$

$\frac{6}{-2} = \frac{-2x}{-2}$

$-3 = x$