Unit 6: Linear Equations and Inequalities   Name: _____

6.2: Solving Equations by Using Balance Strategies - Worksheet

1. Solve each equation and verify the solution.

    a) $3y - 6 = 9y$ **b)** $2a - 4 = -3a$

    c) $-14.3 + 2c = -c + 4.9$ **d)** $-12.6f = 6.1f + 74.8$

    e) $\dfrac{22.75}{w} = -3.5$ **f)** $\dfrac{1}{2}x + \dfrac{3}{4} = \dfrac{5}{8}x - \dfrac{1}{4}$

2. The sum of three times a number, plus five is equal to seven less than seven times the number. Write an equation to model this situation. Solve the equation to determine the number. Verify the solution.

3. Solve each equation and verify the solution.
   a) $2(h-1) = -3(h+3)$

   b) $4.1(2-y) = -1.025(y-0.5)$

   c) $\dfrac{3}{4}(2x-3) = \dfrac{6}{5}(3x+1)$

   d) $\dfrac{2b}{3} + \dfrac{11}{4} = 3 - \dfrac{11b}{6}$