Study Guide

Chapter 3 Test

3.1: Solve One-Step Equations

    - Be able to use inverse operations to isolate the variable and solve one-step equations

Ex: $\dfrac{2}{7}n = -5$ **Ex:** $-5 + x = -4$ **Ex:** $1 - x = -2$

3.2/3.3: Solve 2/Multi-Step Equations

    - Be able to use inverse operations and reverse PEMDAS to solve multi-step equations

Ex: $4w + 2w = 24$ **Ex:** $\dfrac{x}{2} + 5 = 11$ **Ex:** $5x - 4(x - 3) = 17$

Ex: $\dfrac{3}{4}(z - 6) = 12$ **Ex:** $-4 = 2(x - 2) - 3(1 - x)$

3.4: Solve equations with variables on both sides

    - Be able to solve equations with variables on both sides by moving variable terms together

Ex: $3m - 25 - 8m = m - 14$ **Ex:** $4(m - 3) = 2(6 - 2m)$

    - Be able to identify when an equation has no solution, infinite solutions or 0 as the solution

Ex: $-5(3a - 4) = 7a + 27 - 7$ **Ex:** $4(3x + 2) = 2(6x + 4)$

Ex: $5z - 6 = (z - 1)5$

3.5/3.6: Write ratios and write/solve proportions

- **Be able to set up and solve ratios and proportions**

Ex: $\dfrac{34}{6} = \dfrac{2z+1}{2}$

Ex: $\dfrac{-4a-1}{-10a} = \dfrac{3}{8}$

3.7: Set up and solve percent problems

- **Be able to set up and solve percent and percent of change problems using the percent proportion**

Ex: What is 42.5% of 380?

Ex: 90 is what percent of 250?

Ex: A survey asks high school seniors whether they would be willing to pay $5 for their yearbook. 198 students said "yes." This is 88% of the senior class. How many seniors are there in the high school?

3.8: Rewrite equations and formulas

- **Be able to solve a literal equation for a variable**

Ex: The area of a circular ring is found by using the formula $A = 4\pi pw$

    a) Solve for p.

    b) Find p when the area is 905 square feet and the width is 9 feet

- **Be able to write equations in function form**

Ex: $4x - 2y = -18$

Ex: $4y - x = 20$