

3.4 – 3.7 Quiz Study Guide

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: $3m - 25 - 8m = m - 14$

$$m = -\frac{11}{6}$$

Ex: $4(m - 3) = 2(6 - 2m)$

$$m = 3$$

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

Ex: $-5(3a - 4) = 7a + 27 - 7$

$$a = 0$$

Ex: $4(3x + 2) = 2(6x + 4)$

any number

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

No solution

3.5 – 3.6: Set up Ratios in Simplest Form

- Be able to set up ratios correctly
- Be able to write ratios in simplest form

Ex: In Mr. Heim's science class the ratio of girls to boys is 12 to 10. Write this ratio in simplest form.

6:5

Ex: What is the ratio of girls to all students?

6:11

Ex: What is the ratio of boys to all students?

5:11

- Be able to solve proportions using cross – products

Ex: $\frac{16}{48} = \frac{n}{36}$

$$n = 12$$

Ex: $\frac{36}{54} = \frac{2x}{6}$

$$n = 2$$

Ex: $\frac{m + 3}{8} = \frac{40}{64}$

$$m = 2$$

Ex: $\frac{7}{112} = \frac{c - 3}{8}$

$$c = 3.5$$

- Be able to set up a proportion from a word – problem and solve.

Ex: A map has a scale of 1 cm to 15 km. What is the actual distance if two cities are 6 cm apart on a map?

$$\frac{1}{15} = \frac{6}{x} \quad 90 \text{ km}$$

Ex: A recipe yields that 12 buttermilk biscuits calls for 2 cups of flour. How much flour is needed to make 30 biscuits?

$$\frac{12}{2} = \frac{30}{x} \quad 5 \text{ cups}$$

3.7: Solving Percent Problems

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

Ex: What percent of 80 is 56?

70%

Ex: What number is 18% of 150?

27

Ex: 71.5 is 52% of what number?

137.5