

Chapter 3 Review

3.1 Solving One-Step Equations

Use inverse operations to balance equations.

Check your solutions.

3.2 Solving Two-Step Equations

Use the reverse order of operations to solve two-step equations.

Check your solutions.

3.3 Solving Multi-Step Equations

EDCBA

Word Problems

Perimeter/Area Problems

3.4 Solving Equations with Variables on Both Sides

Eliminate one with the smaller coefficient.

Recognize when an equation has one solution, not solution, or infinite solutions.

3.5 Writing Ratios and Proportions

Writing ratios- The order does matter.

Use labels when writing proportions

3.6 Solving Proportions Using Cross Products

You may need to distribute if a numerator or denominator has more than one term.

3.7 Solving Percent Problems

$$\frac{\text{is}}{\text{of}} = \frac{\%}{100}$$

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

$$\text{Percent Change- } \frac{\text{change}}{\text{original}} = \frac{\%}{100} \text{ (use increase or decrease)}$$

3.8 Rewriting Equations and Formulas

Function Form- isolate y.

Solving Equations

Solve each equation.

1) $2(x + 6) = 18$

2) $6 = 18x$

3) $2x - 3(x - 2) = -5 - 2x$

$$4) \frac{2}{3} + g = \frac{5}{6}$$

$$5) 2(2x - 3) = -3(-x + 3)$$

$$6) 3(2x - 5) - 2x = 2(2x + 3)$$

$$7) 2(2x - 3) = 4x - 6$$

Solving Proportions

Solve each proportion.

$$8) \quad \frac{5g}{3} = \frac{g-3}{2}$$

For numbers 9 and 10, set up a proportion and solve. Show all your work.

9) The ratio of length to width is 2:3. Find the length if the width is 7.

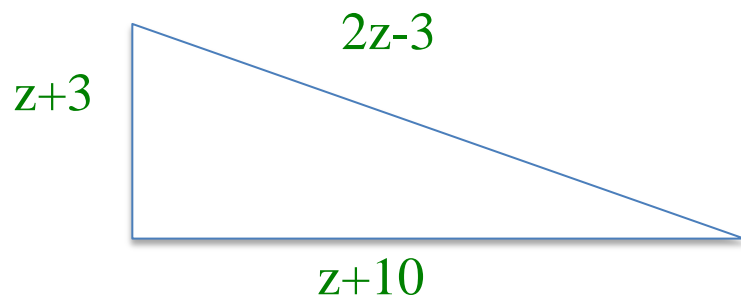
10) If you need $1\frac{1}{2}$ hours to complete 6 pages of math problems. How many pages can you complete in 5 hours?

Percents

11) You and your family go to dinner. Your meal comes to \$98.50. You want to leave a 20% tip. What is the final cost including the tip?

Area and Perimeter

12) The perimeter of the triangle is 42 inches. Find the missing side lengths.



Word Problems

13) A museum charges \$25 per visit for non-members. You can become a member for a fee of \$120 and pay only \$15 per visit. How many times would you need to visit to justify becoming a member?

Rewriting Formulas and Equations:

For numbers 14 and 15 write the equations in function form.

14) $6x - 3y - 9 = 0$

15) $8x - y = 5$