

Section 3.9 – Chapter Summary

Problem Set 1

Simplify the following expressions.

- $x - 4x$
- $2y + 5y$
- $-(a - b) + 2(2a + 3b)$
- $3a + 4b + 2c + b$
- $4(3x - 1) - 5$
- $4b + \frac{2b}{3} + b$
- $3a + 2a - 3x + x$
- $3mn + 3mn + 4mk$
- $y(3 + 1) - 3x$
- $-3 + 3x + 2b + x - 5$
- $x(3y - 1) + 3xy$
- $2.1a + 2.3a + 1.1a$

Solve the following equations and inequalities.

- $z + 7 = 3$
- $x + 5 = 5$
- $-3 = -4 + y$
- $3x - 6 = 9$
- $-2x = 18 + x$
- $2z + 4 = 28$
- $a = -3a + 4$
- $2x + 1.1 = .4x + 3.5$
- $3(2x - 1) = 12$
- $15 - \frac{5}{2}y = \frac{5}{2} + \frac{3}{2}y$
- $.4x = 10.2$
- $2y + 6 = 9y + 9$
- $\frac{2x}{3} - 2 = \frac{1}{6}$
- $4y + 1 < 3y - 10$
- $4a + 6a = -5a$
- $2x - 1 = 4x + 7$
- $12z + 3 = -3(z - 1)$
- $\frac{x}{3} - 4 = \frac{5x}{6} + 2$
- $3(2z - 1) = 3(z - 1) + 1$
- $65t + 2 = 22t + 2(3t + 1)$
- $4a + 2(3a - 2) = 4a$
- $-2x + 6 < 7$
- $\frac{7x}{10} + 2 = \frac{x}{5} - 1$
- $\frac{y}{4} + 2 > \frac{y}{5} + 6$
- $-8(x - 5) \leq 24$
- $4.1b + 12 < -3.1b - 2$
- $4(x + 3) \geq -2(x + 4)$

Solve the following problems.

- If the sum of two integers is 117, what are the integers?
- If the sum of two odd integers is -108, what are they?
- If the first of three odd integers minus last equals the second, what are the numbers?
- If you have a mixture of nickels and dimes where the number of dimes is two more than three times the number of nickels and the total value of the mixture is \$1.25, how many of each coin do you have?
- Suppose you have two types of tea, one costs \$25 a pound and the other costs \$10 a pound. You need to make a mixture of that costs a total of \$450 by mixing the two. How much of each kind do you need?
- James has grades of 80, 85, 92 and 81 on his first four exams. What grade does he need on his fifth exam to keep his current average?
- A cell phone plan charges a flat rate of \$25 per month plus \$.01 per text message. If Luis can spend at most \$45 on his cell phone bill, how many text message can he send.