

Section 3.9 – Chapter Summary

Problem Set 2

Simplify the following expressions.

1. $3x - 2x$

2. $5y + y$

3. $\frac{2r}{5} + \frac{3r}{4} + x + 2r$

4. $4a + 5b + 6c + 7b$

5. $5a + 3a - 3x + 3x$

6. $-2(-x - z) + 2(x + 3z)$

7. $-2(2x + 3) - 4x$

8. $a(2x - b) + 3ax$

9. $y(3a + 1x) - 3ay$

10. $3 + 2a + 2b - a - 4$

11. $3kn + 3kn - 4kn$

12. $2.3a - 5.3a + 0.1a$

Solve the following equations and inequalities.

13. $z - 3 = 4$

14. $x + 3 = 9$

15. $2 = 4 + y$

16. $2x + 4 = 22$

17. $2x = 12 + 3x$

18. $-4z + 9 = 17$

19. $5a = -3a + 18$

20. $20x + 3.2 = 1.4x + 8.5$

21. $8(4x - 2) = -32$

22. $-10 + \frac{3}{2}y = \frac{4}{3} + \frac{1}{2}y$

23. $1.4x = -2.8$

24. $3y + 7 = 10y + 8$

25. $\frac{1x}{4} + 1 = \frac{2}{5}$

26. $5y + 2 < 2y - 9$

27. $3a + 7a = -22a$

28. $3x - 2 = 5x + 8$

29. $11z + 4 = -2(-z + 2)$

30. $\frac{2x}{3} - 3 = \frac{4x}{5} + 1$

31. $2(3z - 2) = 4(z + 2) - 3$

32. $6t + 3 = 2t - 9(t + 21)$

33. $3a - 3(a + 1) = 3a$

34. $-3x + 8 < 11$

35. $\frac{6x}{9} - 1 = \frac{x}{3} - 2$

36. $\frac{3y}{4} - 1 > \frac{y}{8} + 2$

37. $-3(x - 4) \leq 21$

38. $2.1b - .3 < 4.5b - 1.7$

39. $3(x + 4) \geq -12(x - 1)$

Solve the following problems.

40. If the sum of two integers is -81, what are the integers?

41. If the sum of two odd integers is 1150, what are they?

42. The first of four even integers plus twice the last, minus the third is 208. What are the numbers?

43. Suppose you have a mixture of nickels, dimes and quarters. If the number of dimes is twice the number of quarters, the number of nickels is half the number of quarters and the total number of coins is 175. What's the total value of the coins?

44. How many milliliters of a 45% alcohol solution have to be added to 100 milliliters of a 25% solution to get a 17.5% solution?

45. If Linda has grades of 75, 90 and 88 on her first three exams, what grade does she need on her next exam to get an 88% average?

46. Tickets to a student orchestra performance cost \$7.5 for kids and \$10 for parents. If the school sells a total of 85 tickets and brings in a total of \$737.50, how many of each type of ticket did they sell?