Section 3.9 – Chapter Summary

Problem Set 2

Simplify the following expressions.

1. $7a - 4a$
2. $4x + 2x$
3. $5 + 3a - 4b - 2a + 3$
4. $1.8a + 2.2a - 3.2a$
5. $4a - 2x + 5b + 5x$
6. $3(m + 4n) - 3(3m + k)$
7. $12a + 3b - 6c - 3b$
8. $-5kn - 2kn + kn$
9. $-2y(a - 4x) + 2ay$
10. $\frac{3j}{2} - \frac{3r}{4} + j + 2r$
11. $3a(4x - 2b) + 5ax$
12. $-4(-2k - 1) - 3k$

Solve the following equations and inequalities.

13. $z - 5 = 12$
14. $x + 4 = 18$
15. $3 = 17 + w$
16. $-2x + 5 = 17$
17. $5y = 19 + 4y$
18. $-3a + 8 = -7$
19. $8a = -5a + 39$
20. $-4(3x - 21) = -100$
21. $-3(4z + 2) = 2(z - 2) - 3$
22. $-\frac{y}{4} + 1 > \frac{3y}{9} + 2$
23. $10z + 1 = 4(-z - 2)$
24. $4y + 8 = 12y + 8$
25. $\frac{3x}{5} - 2 = \frac{1}{8}$
26. $3y + 8 < 4y - 12$
27. $-8 + \frac{3}{5}y = -\frac{4}{5} + y$
28. $5x - 12 = 7x + 12$
29. $2.8z = -2.8$
30. $\frac{2x}{4} - 1 = \frac{3x}{8} - 1$
31. $21r + 5.8 = 2.4r - 4.25$
32. $4x - 1 = 3x - 8(x + 10)$
33. $5a - 5(2a + 1) = 4a$
34. $3x + 9 < 81$
35. $\frac{x}{9} = \frac{2x}{3} - 3$
36. $5z + 7z = -z$
37. $-2(-x + 1) \leq 11$
38. $1.1b - 5.1 < 0.3b - 2.7$
39. $-2(-x + 3) \geq 10(3x + 1)$

Solve the following problems.

40. If the sum of two integers is 117, what are the integers?
41. If the sum of two odd integers is -800, what are they?
42. The first of four even integers plus twice the last, minus the third is 208. What are the numbers?
43. The electric company charges a monthly fee of $35 plus $1.01 per kilowatt hour used. If the maximum a person can afford to spend each month is $95, how many kilowatt hours can they afford to use?
44. If Susan has grades of 85, 86, 90 and 92 on her first four exams, what grade does she need on her next exam to keep her current average?
45. Suppose you have a jar with a mixture of pennies, nickels and quarters. If the jar has twenty-five more pennies than nickels and half as many quarters as nickels and the total value of the jar is $15.05, how many of each coin does the jar have?
46. How many pounds of Darjeeling tea worth $2.50 per pound must be added to 14 pounds of Indian Ceylon tea worth $3.75 a pound to make a mixture worth $3.25 per pound?