1. Solve the equation.

7x – 28 = 6(x – 3)

1. For what value of *c* is the number *a* a solution of the equation?

4x + 13 + 2c = 4c – 2x +3; a = -2

1. Solve the formula for P.

L = P*ya*

1. A consulting engineer’s time is billed at $62 per hour, and her assistant’s time is billed at $26 per hour. A customer received a bill for $618 for a certain job. If the assistant worked 5 hours less than the engineer, how much time did each bill on the job?
2. In a certain medical test designed to measure carbohydrate tolerance, an adult drinks 13 ounces of a 30% glucose solution. When the test is administered to a child, the glucose concentration must be decreased to 20%. How much 30% glucose solution and how much water should be used to prepare 13 ounces of 20% glucose solution?
3. British sterling silver is a copper-silver alloy that is 7.5% copper by weight. How many grams of pure copper and how many grams of British sterling silver should be used to prepare 221 grams of a copper-silver alloy that is 14% copper by weight?
4. A runner starts at the beginning of a runners’ path and runs at a constant rate of 10 mi/hr. Five minutes later a second runner begins at the same point, running at a rate of 12 mi/hr and following the same course. How long will it take the second runner to reach the first?
5. A rectangular plot of ground having dimensions 31 feet by 30 feet is surrounded by a walk of uniform width. If the total area of the walk & plot is 1640 ft2, what is its width?
6. Solve the equation by factoring.

15x2 + 4x – 35 = 0

1. Solve by completing the square.

4x2 – 12x – 31 = 0