**Systems of Equations and Inequalities Review**

1. Solve each system of equations by substitution. Verify your solutions.

**a)** *y*  2*x*  1 **b)** *y*  *x*2  3*x*  14

*y*  *x*2  5*x*  13 *y*  3*x*2  5*x*  18

1. Solve each system of equations by elimination. Verify your solutions.
2. 6x2 -3x = 2y – 5 b) 4*x* + *y* + 5 = *x*2

2x2 = x + y - 4 *x*2  5*x* 2*y* =0

1. The perimeter of the right triangle is 60cm. The area of the triangle is 10y cm2.
2. Write a simplified expression for the triangle’s perimeter in terms of x and y.
3. Write a simplified expression for the triangle’s area in terms of x and y.
4. Write a system of equations and solve the system for x and y.
5. Determine the inequality that corresponds to each graph.
6. b)

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1. For the graph of *f* (*x*)  *x*2  5*x*  6, determine each solution.
2. *x*2  5*x*  6  0
3. *x*2  5*x*  6  0

 **c)** *x*2  5*x*  6  0

 **4.** Determine algebraically the solution to each inequality.

**a)** (*x*  1)(*x*  5)  0 **b)** 4*x*2  18  17*x*

 5. Graph each quadratic inequality.

**a)** *y*  (*x*  5)2  4 **b)** 3*y*  (*x*  1)2  6