Take the quiz and record your score on your grading sheet. You may use a calculator unless otherwise specified. After the quiz, make sure you review what you missed.

1. $y = ax - 1$

   $2x - y = b$

   If the solution to the system of equations above is $(4, 3)$, what is the value of ab ?

2. $y = 2x$

   $3x + y = 10$

   What is the solution (x, y) to the system of equations above?

3. $x - 2y = 1$

   $x + 2y = 7$

   If (x, y) satisfies the system of equations above, what is the value of $x - 4y$?

4. $2x - 3y = a$

   $4x - by = 2$

   Under what condition does the system of equations above have no solution?

   A) $a = 1, b = 6$ B) $a = 1, b \neq 6$

   C) $a \neq 1, b = 6$ D) $a \neq 1, b \neq 6$

5. The length of a rectangle is twice its width. The perimeter is 24 feet. Find the dimensions of the rectangle.

6. In a basketball game, Alexa scored 23 points from 2-point and 3-point baskets. She made a total of 10 baskets. How many 2-point baskets did she make?

7. $y > x + 2$

   $x + 4y < 4$

   Which quadrants contain the solutions to this system of inequalities above?

8. $y \leq 2x$

   $x + y \leq 3$

   In the system of inequalities above, what is the maximum possible value of y ?

9. $y \leq ax$

   $y > 5x + 7$

   The system of inequalities above has no solutions. What is the value of a ?

10. Ella is buying muffins and cookies for a party. Muffins cost \$3 each and cookies cost \$2 each. Ella can spend at most \$60, but she needs a total of at least 25 muffins and cookies. What is the minimum number of cookies Ella must buy to satisfy the conditions described?