Solve each problem, circling the correct answers. Remember that figures are not necessarily drawn to scale.

1. \((a + 2b + 3c) - (4a + 6b - 5c)\) is equivalent to:
   A. \(-4a - 8b - 2c\)
   B. \(-4a - 4b + 8c\)
   C. \(-3a + 8b - 2c\)
   D. \(-3a - 4b - 2c\)
   E. \(-3a - 4b + 8c\)

2. What are the quadrants of the standard \((x,y)\) coordinate plane below that contain points on the graph of the equation \(4x - 2y = 8\)?

   - A. I and III only
   - B. I, II, and III only
   - C. I, II, and IV only
   - D. I, III, and IV only
   - E. II, III, and IV only

3. The sides of a square are 3 cm long. One vertex of the square is at \((2,0)\) on a square coordinate grid marked in centimeter units. Which of the following points could also be a vertex of the square?
   - F. \((-4, 0)\)
   - G. \((0, 1)\)
   - H. \((1, -1)\)
   - J. \((4, 1)\)
   - K. \((5, 0)\)
4. A bag contains 12 red marbles, 5 yellow marbles, and 15 green marbles. How many additional red marbles must be added to the 32 marbles already in the bag so that the probability of randomly drawing a red marble is \( \frac{3}{5} \)?

F. 13  
G. 18  
H. 28  
J. 32  
K. 40

5. For \( \triangle FGH \), shown below, which of the following is an expression for \( y \) in terms of \( x \)?

\[ HF = 4 \]  
\[ FG = x \]  
\[ GH = y \]

A. \( x + 4 \)  
B. \( \sqrt{x^2 + 4} \)  
C. \( \sqrt{x^2 - 8} \)  
D. \( \sqrt{x^2 - 16} \)  
E. \( \sqrt{x^2 + 16} \)