1. What are the roots of the quadratic equation \(14x^2 - 29x = -12\)?
   a) \(\frac{4}{7}, \frac{3}{2}\)  
   b) \(\frac{2}{7}, \frac{3}{4}\)  
   c) \(-\frac{4}{7}, -\frac{3}{2}\)  
   d) \(0, \frac{29}{14}\)

2. What is the value of \(y\) if \((-3, y)\) is a solution to the equation \(-3x^2 + 1 = y + 4x\)?
   a) 16  
   b) 40  
   c) -38  
   d) -14

3. The graph below shows the path of a cannon ball. When did the cannon ball reach its maximum height?
   a) After 3 seconds  
   b) After 6 seconds  
   c) After 50 seconds  
   d) After 90 seconds

4. A function is described by the equation \(y = 2x^2 - 3x + 10\).
   The replacement set for the independent variable is \(\{-2, -\frac{1}{2}, 3\}\).
   Which of the following is contained in the corresponding set for the dependent variable?
   a) 12  
   b) 8  
   c) 9  
   d) 37
5. In the graph of the function \( k(x) = (x + 3)^2 - 2 \), which describes the shift in the vertex of the parabola if, in the function, 3 is changed to –5?

   a) The vertex is translated 5 units down.
   b) The vertex is shifted 8 units to the left.
   c) The vertex is shifted 8 units to the right.
   d) The vertex is translated 8 units down.

6. The area of a rectangle is given by the equation \( A = 6l^2 + 5l - 6 \) in which \( l \) is the length of the rectangle. What is the length of the rectangle if the area is to equal 5 square units?

   a) \( \frac{2}{3} \) units  b) 1 unit  c) \( \frac{11}{6} \) units  d) \( \frac{3}{2} \) units

7. The area of a rectangle is \( 4l^2 - 4l - 15 \), and the length is \( (2l + 3) \). Which expression best describes the rectangle’s width?

   a) \( 2l + 5 \)  b) \( w \)  c) \( l - 5 \)  d) \( 2l - 5 \)

8. What is the effect on the graph of the equation \( y = \frac{1}{2}x^2 \) when the equation is changed to \( y = \frac{3}{4}x^2 - 2 \)?

   a) The graph is made wider and is shifted down 2 units.
   b) The graph is made narrower and is shifted down 2 units.
   c) The graph is made narrower and is shifted to the right 2 units.
   d) The graph is made wider and is shifted to the left 2 units.
9. In the figure below, assume $c = 2$. Find an expression for the shaded area.

\[
\begin{array}{c}
\text{(5x - 3)} \\
\hline
\text{(2x + 2)} \\
\end{array}
\]

\[
\text{a) } 10x - 6 \quad \text{b) } 4x + 4 \quad \text{c) } 2(5x^2 + 2x - 3) \quad \text{d) } 10x^2 - 6
\]

10. What are the roots of the quadratic equation $42x^2 + 12 = 45x$?

\[
\text{a) } \frac{1}{2}, \frac{4}{7} \quad \text{b) } (2x - 1), (7x - 4) \quad \text{c) } (4x - 7), (x - 2) \quad \text{d) } 2, \frac{7}{4}
\]