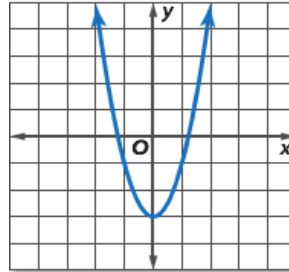# Chapter 9 Mid-Chapter Practice Test

SCORE _____

(Lessons 9-1 through 9-5)

Part I *Write the letter for the correct answer in the blank at the right of each question.*

1. Which equation corresponds to the graph shown?
   A $y = x^2 - 3$ **C** $y = x^2 + 3$
   B $y = -(x - 3)^2$ **D** $y = -(x + 3)^2$

1. _____

2. Find the coordinates of the vertex of the graph of
   $y = -x^2 - 4x$ - 6. Identify the vertex as a maximum
   or a minimum.

2. _____

3. Solve $x^2 + 8x + 16 = 169$ by taking the square root of each side.

3. _____

4. Which equation can be used to solve $2b^2 + 24b + 56 = 0$ by completing the square?
   F $(b + 6)^2 = 8$ **G** $(b + 6)^2 = 46$ **H** $(b + 3)^2 = 11$ **J** $(b + 3)^2 = 19$

4. _____

5. Which step is *not* performed in the process of solving $r^2 + 6r + 3 = 0$ by completing
   the square?
   A Add 3 from each side.   **C** Add 9 to each side.
   B Divide 6 by 2, then square   **D** Take the square root of each side.

5. _____

Part II

Solve each equation. If integral roots cannot be found, estimate the roots by stating the consecutive integers between which the roots lie.

6. $x^2 - 7x + 10 = 0$

6. _____

7. $x^2 + 3 = 7x$

7. _____

For Questions 8 and 9, round to the nearest tenth if necessary.

8. Solve $x^2 + 6x = 40$ by completing the square.

8. _____

9. Solve $-2x^2 + 8x = 6$ by completing the square.

9. _____

10. The base of a rectangle is 3 less than the height. The area of the rectangle is 10 square
   inches. What are the dimensions of the rectangle?

10. _____