**Chapter 9 Mid-Chapter 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* = $x^{2}$ – 1 **C** *y* = $x^{2}$ + 1

 **B** *y* = $-(x-1)^{2}$ **D** *y* = $-(x+1)^{2}$

 **2.** Find the coordinates of the vertex of the graph of

 *y* = $x^{2}$ – 8*x* + 10. Identify the vertex as a maximum

 or a minimum.

 **F** (4, –6); minimum **H** (4, 6); maximum

 **G** (–4, 58); maximum **J** (–4, 26); minimum

 **3.** Solve $x^{2}$ – 24*x* + 144 = 36 by taking the square root of each side.

 **A** –6, 18 **B** 6, 18 **C** 6, 12 **D** –6, 6

 **4.** Which equation can be used to solve 5$b^{2}$ + 30*b* – 10 = 0 by completing the square?

 **F** $(b+6)^{2}$ = 38 **G** $(b+6)^{2}$ = 46 **H** $(b+3)^{2}$ = 11 **J** $(b+3)^{2}$ = 19

 **5.** Which step is *not* performed in the process of solving $r^{2}$ + 8*r* + 5 = 0 by completing
the square?

 **A** Subtract 5 from each side. **C** Add 16 to each side.

 **B** Factor $r^{2}$ + 8*r*. **D** Take the square root of each side.

**Part II**

**Solve each equation by graphing. If integral roots cannot be found, estimate the roots to the nearest tenth.**

 **6.** $x^{2}$ – 7*x* – 8 = 0

 **7.** $x^{2}$ + 1 = 5*x*

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

 **8.** Solve $x^{2}$ + 4*x* = 20 by completing the square.

 **9.** Solve –2$x^{2}$ + 18 = 7*x* by using the Quadratic Formula.

**10.** The base of a rectangle is 4 more than the height. The area of the rectangle is 15 square inches. What are the dimensions of the rectangle to the nearest tenth of an inch?

 **1.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **2.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **3.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **4.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **5.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **7.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **8.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **9.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**10**. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_