**Chapter 9 Practice Test** SCORE \_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

**1.** Consider the equation *y* = $x^{2}$ + 3*x* – 4. Determine whether the function has a maximum

 or minimum value. State the maximum or minimum value. What are the domain and

 range of the function?

**2.** What is the equation of the axis of symmetry and the coordinates of the vertex of *y* = $x^{2}$ + 6*x* – 7?

**3.** Find the coordinates of the vertex of the graph of *y* = 4 – $x^{2}$. Identify the vertex as a maximum or a minimum.



**4.** What are the roots of the quadratic equation whose related

 function is graphed at the right?



**5.** One root of the quadratic equation whose related function is

 graphed lies between which two consecutive integers?

 **A** 1 and 2 **C** 0 and –1

 **B** 2 and 3 **D** 0 and 1



**6.** What is the general equation to the graph shown?

**7.** Describe how the graph of the function *g*(*x*) = –3$x^{2}$ – 2 is

 related to the graph of the function *f*(*x*) = $x^{2}$.

**8.** Find the value of *c* that makes $x^{2}$ – 5*x* + *c* a perfect square trinomial.

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

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

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

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

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

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

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

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

**Chapter 9 Practice Test** *(continued)*

 **9.** Which value of *c* makes $y^{2}$ + 8*y* + *c* a perfect square trinomial?

**10.** Which equation is equivalent to $2x^{2}$ + 4*x* – 6 = 0?

 **F** $(x+1)^{2}$ = 2 **G** $(x-1)^{2}$ = 4 **H** $(x-1)^{2}$ = 2 **J** $(x+1)^{2}$ = 4

**11.** Solve the equation 2*x*2 + 3*x* – 5 = 0 by using the Quadratic Formula.

**12.** Determine the number of real solutions of *y* = $3x^{2}$ – 8*x* + 10.

**13.** Determine the number of real solutions of $n^{2}$ – 5*n* – 6 = 0.

**14.** 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.

**15.** Solve the equation 12$v^{2}$ – 6 = –*v*by using the Quadratic Formula.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***x*** | 0 | 1 | 2 | 3 |
| ***y*** | 0 | 2 | 8 | 18 |

**16.** Look for a pattern in the table of values

 to determine which model best describes

 the data.

 **F** linear **G** quadratic **H** exponential **J** none of these

**17.** Which function best models the data in Question 16?

 **A** *y* = 2*x* **B** 2*x* + 1 **C** *y* = 2$x^{2}$ **D** *y* = $2^{x}$

**18.** What is the range of *y* = | 3*x* + 1 |? (fair warning- know all characteristics of the graph!)

 **F** {all real num.} **G** {*y* | *y* ≥ 0} **H** {*y* | *y* ≥ 1} **J** $\left\{y | y \geq \frac{1}{3} \right\}$

**Bonus** ?

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

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

**11.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**12.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**13.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**14.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**15.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**16.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**17.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**18.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**B.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_