Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_ Score:\_\_\_\_\_

**Unit 9 Review**

**1.** Which description defines the graph of a function?

**a.** A coordinate plane with correctly labeled axes.

**b.** A coordinate plane where every *y*­value is assigned exactly one *x*­value.

**c.** A line on a coordinate plane that describes the rule associated with a function.

**d.**  The set of all ordered pairs of the form (input, output) where each input has exactly one output.

**2.** Which statement is true about all functions?

**a.** All functions take zero to zero.

**b.** Each output corresponds to exactly one input.

**c.** Every input corresponds to exactly one output.

**d.** Functions must take rational numbers to rational numbers and irrational numbers to irrational numbers.

**3.** Which graph represents a function?

**A.**  **B. C.**  **D.**

**4.** Which relation is a function?

**a.** {(0, 0), (0, 1), (0, 2)} **b.** {(–1, 1), (0, 1), (1, 1)}

**c.** {(1, 2), (1, 3), (1, 4)} **d.** {(–4, –2), (2, –4), (–4, –6)}

**5.** Six relations are shown. Select the relations that are also functions.

**7.** The table shows values for the function

|  |  |
| --- | --- |
| ***x*** | ***y*** |
| 3 | 1 |
| 4 | 3 |
| 5 | 5 |
| 8 |  |

What is the y­value of this function when x is 8?

**8.** Compare the function  to the function shown in the graph. Which function has a greater rate of change?



**9.** Compare the function  to the linear function  described in the table.

|  |  |
| --- | --- |
|  |  |
| 0 | 5 |
| 1 | 7 |
| 2 | 9 |
| 3 | 11 |

Which function has a greater rate of change?

**10.** Which function has a graph that is a straight line?

**A.**  **B.** 

**C.**  **D.** 

**11.** Four function tables are shown. Place a label in each box to show whether the function is linear or nonlinear.

**12.** Sort the functions into linear and non­ linear functions.



**13.** Which set of ordered pairs represents a linear function?

**A.** {(2, 4), (4, 5), (6, 6), (9, 7)} **B.** {(-2, 3), (5, 3), (7, 3), (9, 3)}

**C.** {(6, 3), (7, -3), (8, -9), (8, -15)} **D.** {(-5, 5), (-4, 4), (3, 3), (-5, -5)}

**14.** Which equation represents a linear function?

**A.**  **B.**  **C.**  **D.** 

**15.** Which point lies on the graph of the linear function? 

**A.**  **B.**  **C.**  **D.** 

**16.** Which statement is false?

**A.**  is a linear function.

 **B.**   is a linear function.

**C.**  is a linear function. **D.** is a linear function

**18.** Complete the table for the linear function *f*(*x*). Find the missing value.

|  |  |
| --- | --- |
| ***x*** | ***f*(*x*)** |
| –5 | –10 |
| –2 | –1 |
| 1 | **?** |
| 2 | 11 |

**20.** Which statement is true about the domain and range of a function?

**A.** The domain is always a subset of the range.

**B.** The range is always a subset of the domain.

**C.** Every element of the domain corresponds with exactly one element of the range.

**D.** Every element of the range corresponds with exactly one element of the domain.