Quiz 2.3: Relations

Multiple Choice: *Choose the letter that corresponds to the correct answer. Write the answer in your notebook.*

1. The set of first coordinates of a relation is called:

   A. Domain B. Function C. Range D. Relation

2. The set of second coordinates of a relation is called:

   A. Domain B. Function C. Range D. Relation

3. Any set of ordered pairs is called:

   A. Domain B. Function C. Range D. Relation

4. What do we call the correspondence where many elements in the first set are paired with the same elements in the second set?

   A. One-to-one B. One-to-many C. Many-to-one D. Many-to-many

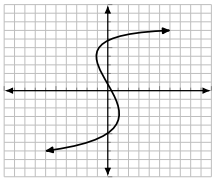
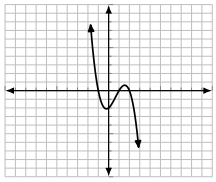
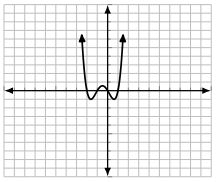
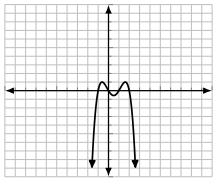
5. A relation in which each element of the domain is paired with exactly one element of the range is called:

   A. Domain B. Function C. Range D. Relation

6. Which of the following relations is NOT a function?

   A. $\{(3,3),(5,5),(6,6),(7,8)\}$
   C. $\{(-3,-2),(-2,-1),(-1,0),(0,1)\}$
   B. $\{(2,5),(2,6),(4,5),(4,6)\}$
   D. $\{(-8,-6),(-6,-4),(-4,-2),(-2,0)\}$

7. Which of the following relations is NOT a function?

   A.  B.  C.  D. 

8. The maximum number of points where a vertical line can pass through the graph of a function is:

   A. One B. Two C. Three D. Four

9. What kind of pairing is shown in the relation {(3, 2), (4, 2), (5, 1), (6, 1)}?

   A. One-to-one correspondence
   C. Many-to-one correspondence
   B. One-to-many correspondence
   D. Many-to-many correspondence

10. Find the domain and range of this relaltion: {(0, 2), (1, 3), (2, 4), (3, 5), (4,6)}

    A. $D=\{0,1,2,3,4\}, R=\{2,3,4,5,6\}$
    C. $D=\{2,3,4,5,6\}, R=\{0,1,2,3,4\}$
    B. $D=\{0,2,1,3,2\}, R=\{4,3,5,4,6\}$
    D. $D=\{6,4,5,3,4\}, R=\{2,3,1,2,0\}$

11. What kind of pairing is shown in the relation {(0, 2), (0,4), (0, 6), (0, 8), (0, 10)}?

    A. One-to-one correspondence
    C. Many-to-one correspondence
    B. One-to-many correspondence
    D. Many-to-many correspondence

Answer Key

1. The set of first coordinates of a relation is called:

   Solution:

   A. Domain B. Function C. Range D. Relation

2. The set of second coordinates of a relation is called:

   Solution:

   A. Domain B. Function C. Range D. Relation

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   Solution:

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   C. $\{(-3,-2),(-2,-1),(-1,0),(0,1)\}$

   D. $\{(-8,-6),(-6,-4),(-4,-2),(-2,0)\}$

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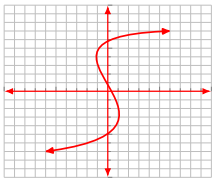
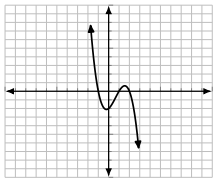
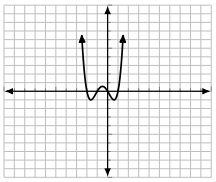
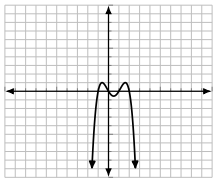
   Solution:

   A. 

   B. 

   C. 

   D. 

8. The maximum number of points where a vertical line can pass through the graph of a function is:

   Solution:

   A. One B. Two C. Three D. Four

9. What kind of pairing is shown in the relation {(3, 2), (4, 2), (5, 1), (6, 1)}?

   Solution:

   A. One-to-one correspondence

   B. One-to-many correspondence

   C. Many-to-one correspondence

   D. Many-to-many correspondence

10. Find the domain and range of this relaltion: {(0, 2), (1, 3), (2, 4), (3, 5), (4,6)}

Solution:

A. $D = \{0, 1, 2, 3, 4\}, R = \{2, 3, 4, 5, 6\}$

B. $D = \{0, 2, 1, 3, 2\}, R = \{4, 3, 5, 4, 6\}$

C. $D = \{2, 3, 4, 5, 6\}, R = \{0, 1, 2, 3, 4\}$

D. $D = \{6, 4, 5, 3, 4\}, R = \{2, 3, 1, 2, 0\}$

11. What kind of pairing is shown in the relation {(0, 2), (0,4), (0, 6), (0, 8), (0, 10)}?

Solution:

A. One-to-one correspondence

B. One-to-many correspondence

C. Many-to-one correspondence

D. Many-to-many correspondence