Name_____

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MATH@TD

11U - U2: Intro to Functions - Practice Quiz

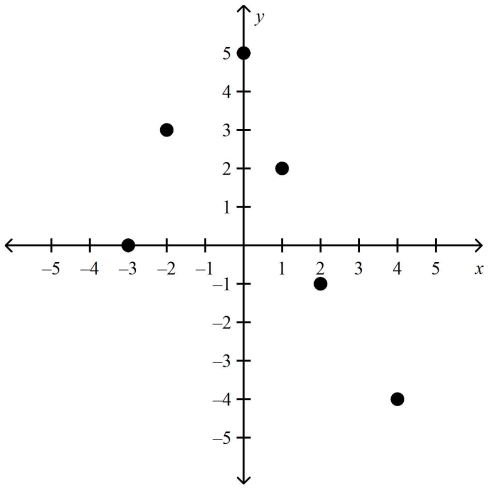
Multiple Choice
Identify the choice that best completes the statement or answers the question. Circle the letter of your choice.

1. Evaluate $f(x) = -4x^2 + 7$ for $f(1) + f(-2)$.
   a. –6
   b. 3
   c. 26
   d. 94

2. Debra thought of a number. She squared the number and added the original number to the result. She then divided the sum by 4. Which function represents Debra's number?
   a. $f(x) = x^2 + \frac{x}{4}$
   b. $f(x) = \frac{2x + x}{4}$
   c. $f(x) = \frac{x^2 + x}{4}$
   d. $f(x) = \frac{2x}{4} + x$

3. Which relation is not a function?
   a. {(–13, –10), (–15, –12), (–11, –8), (–16, 4)}
   b. {(8, 17), (5, 5), (8, –3), (4, –1)}
   c. {(–14, –2), (–10, 6), (–1, 3), (10, 6)}
   d. {(0, –2), (–4, 6), (4, 15), (12, 6)}

4. What is the domain of the relation shown?



   a. {–3, –2, 0, 1, 2, 4}
   b. $\{-3 \le x \le 4\}$
   c. $\{x \in \mathbf{I}\}$
   d. {–4, –1, 0, 2, 3, 5}

5. Which of the following is NOT a transformation that can be used to graph the function $f(x) = -6(x-4)^2 + 2$ from the parent function?
   a. Vertical translation 2 units up
   b. Horizontal stretch by a factor of $\frac{1}{6}$
   c. Reflection in the x-axis
   d. Horizontal translation 4 units to the right

Written Solutions

Provide solutions clearly showing your work.

6. What are the domain and range of the graph? Is the graph a function? Why or why not?

7. Consider the function $f(x) = 3x - 8$. Determine
   a) $f(3k)$.
   b) x, if $f(x) = 4$