

1. Which ordered pair represents a linear function?

- A. $(-2, -15), (-1, -9), (0, -3), (1, 3),$ and $(2, 9)$
- B. $(-2, 4), (-1, 1), (0, 0), (1, 1),$ and $(2, 4)$
- C. $(-2, -1), (-1, -4), (0, -5), (1, -4)$ and $(2, -1)$
- D. $(-2, -8), (-1, -1), (0, 0), (1, 1),$ and $(2, 8)$

2. The following ordered pairs represent a function: $(-2, 10), (-1, 7), (0, 6), (1, 7),$ and $(2, 10)$. Which equation could represent the function?

- F. $y = -4x + 2$
- G. $y = x^2 - 6$
- H. $y = 5x$
- I. $y = x^2 + 6$

3. Which rule could represent the function shown by the table at the right?

- A. $y = -x^3$
- B. $y = x^2 + 1$
- C. $y = -x^2 + 1$
- D. $y = -x - 1$

x	y
-2	-3
-1	0
0	1
1	0
2	-3

4. The ordered pairs $(-1, 1), (0, 2), (1, 1), (2, -2),$ and $(3, -7)$ represent a function. Which rule could represent the function?

- F. $y = -x^2 - 2$
- G. $y = -x^2 + 2$
- H. $y = x^2 - 2$
- I. $y = x^2 + 2$

5. Which ordered pair represents a nonlinear function?

- A. $(0, 0), (1, 1), (2, 2), (3, 3),$ and $(4, 4)$
- B. $(0, 0), (1, -1), (2, -2),$ and $(4, -4)$
- C. $(0, -1), (1, 0), (2, 1), (3, 2),$ and $(4, 3)$
- D. $(0, 0), (1, 1), (2, 8), (3, 27),$ and $(4, 64)$

6. A certain function fits the following description. As the value of x increases by 1 each time, the value of y decreases by the square of x . Is this function linear or nonlinear? Explain your answer.

7. The rule $C = 6.3r$ gives the approximate circumference D of a circle as a function of its radius r . Identify the independent and dependent variable in this relationship. Explain your reasoning.