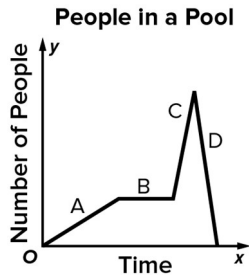


Try your best. Show all your work. Circle your final answer.

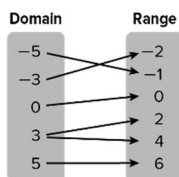
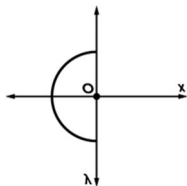
1. The graph represents the number of people at Brennan's backyard pool party throughout the day. Analyze the graph to determine which section of the graph best matches each description.



- a. The number of people in the pool stayed the same for a while. [☐ A ☐ B ☐ C ☐ D]
- b. People got out of the pool fairly quickly until no one was left in the pool. [☐ A ☐ B ☐ C ☐ D]
- c. The number of people in the pool increased very quickly over a short amount of time. [☐ A ☐ B ☐ C ☐ D]
- d. Over time the number of people in the pool slowly increased. [☐ A ☐ B ☐ C ☐ D]

2. Determine whether each relation is a function. Write "Function" or "Not a Function" in the space provided.

x	y
-5	-2
-3	0
1	3
4	-4



$\{(0, 5), (2, 7), (5, 13), (6, 7)\}$

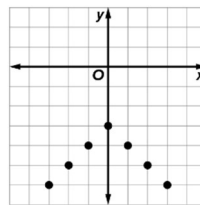
3. Add an ordered pair that would make the relation **not a function**.

$\{(-5, 4), (3, 5), (-7, 2), (\quad , \quad)\}$

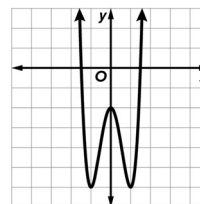
4. For $f(x) = -\frac{3x}{5} + 1$, find the value of $f(10)$.

5. For $f(x) = 2x - 1$ and $g(x) = x^2 + 3$, find the value of $f(4) + g(1)$.

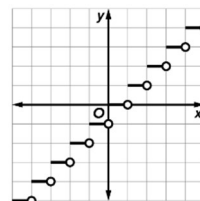
6. Determine whether each function is continuous, discrete, or neither. Circle one for each.



continuous
discrete
neither



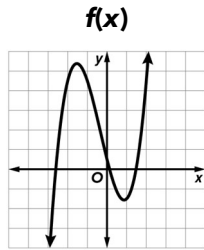
continuous
discrete
neither



continuous
discrete
neither

Try your best. Show all your work. Circle your final answer.

7. Use the graph of $f(x)$ and the description of $g(x)$ to compare the functions.



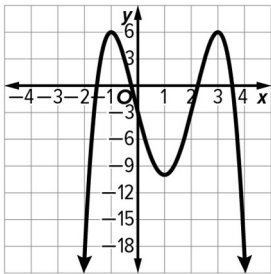
$g(x)$

- x-intercepts of -4 and 2
- y-intercept of 2
- maximum at $(-1, 2.25)$
- End behavior: As x increases or decreases, y decreases.

[(A) $f(x)$ (B) $g(x)$] has a lesser y-intercept.

[(A) $f(x)$ (B) $g(x)$] has a greater relative maximum value.

8. Select the statement that is **false** for the function shown below.



- (A) The function is symmetric about the graph of $x = 1$.
- (B) End behavior: As x increases, y decreases.
- (C) The function is positive between approximately -1.5 and -0.25 and between approximately 2.25 and 3.5.
- (D) There is a relative minimum at $(0, -3)$.

9. Ben made an initial payment of \$850 to a car dealer for a used car. Each month his car payment will be \$350.

The function $f(x) = 350x + 850$ represents the total amount he will have paid for the car after x months.

a) Find the value of $f(10)$.

b) What is the meaning of $f(10)$ in the context of the situation?

10. The graph of a continuous function $f(x)$ has the following description.

- x-intercept: $(2, 0)$, $(-4, 0)$
- y-intercept: $(0, -8)$
- one relative minimum of -9 when $x = -1$
- no relative maximum
- symmetric in the line $x = -1$
- end behavior: as x increases or decreases, y increases.

Using these characteristics, sketch the graph of the function in the space provided below.

