

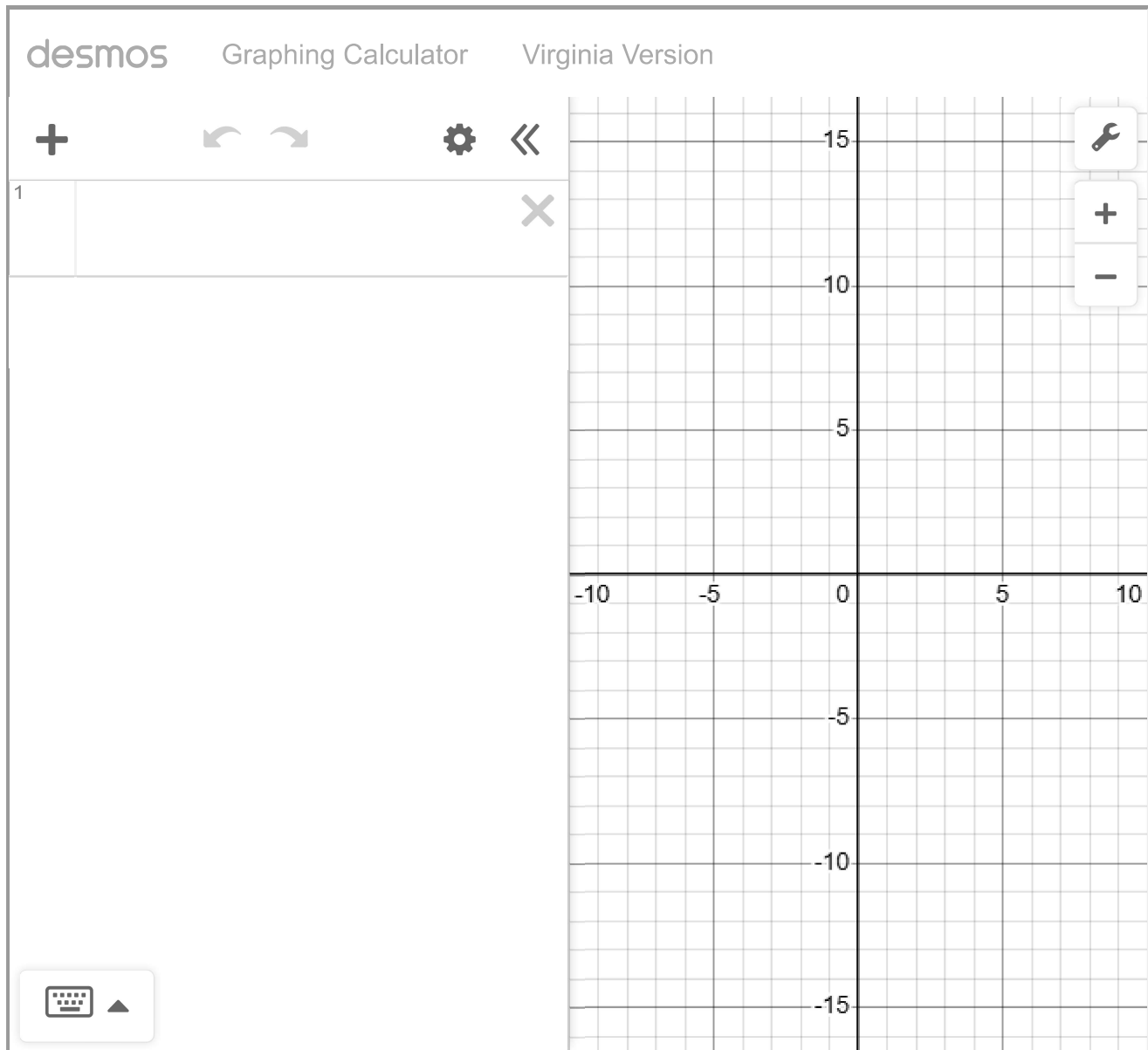
**Name:****Class:****Date:****Question #1****What are all of the possible solutions for the equation  $3|g - 9| - 6 = 18$ ?**

A 1 and 17

B 5 and 13

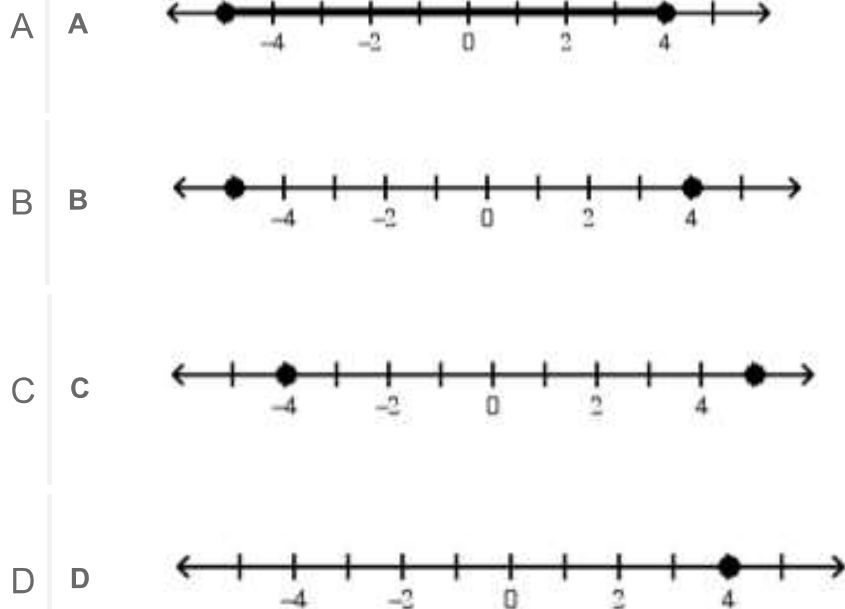
C 13

D 17



Question #2

Which graph shows the solution set for  $|2x + 1| = 9$ ?

Question #3

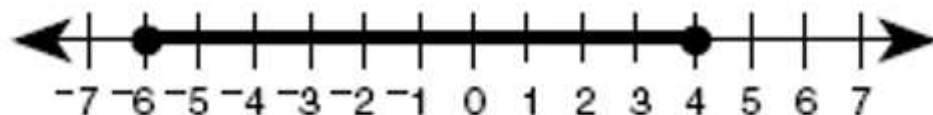
Use the dropdown menu to choose the solution set to the following inequality.

$$|3x - 15| \leq 6$$

[7,3] [3,7] (3,7) [3,7]

Question #4

Which inequality describes the solution set of this graph?



- A  $|x - 2| \geq -5$
- B  $|x + 1| \leq 5$
- C  $|4x - 1| \leq 1$
- D  $|3x - 2| \geq -5$

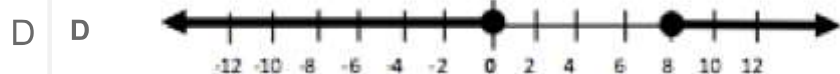
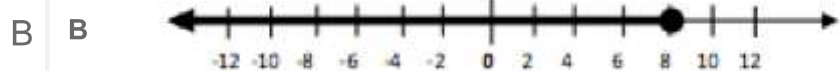
**Question #5****Which answer choice shows the solution set for  $8|x - 2| + 3 \geq 19$ ?**

A **A**  $x \leq -6$  or  $x \geq 10$

B **B**  $x \leq 8$

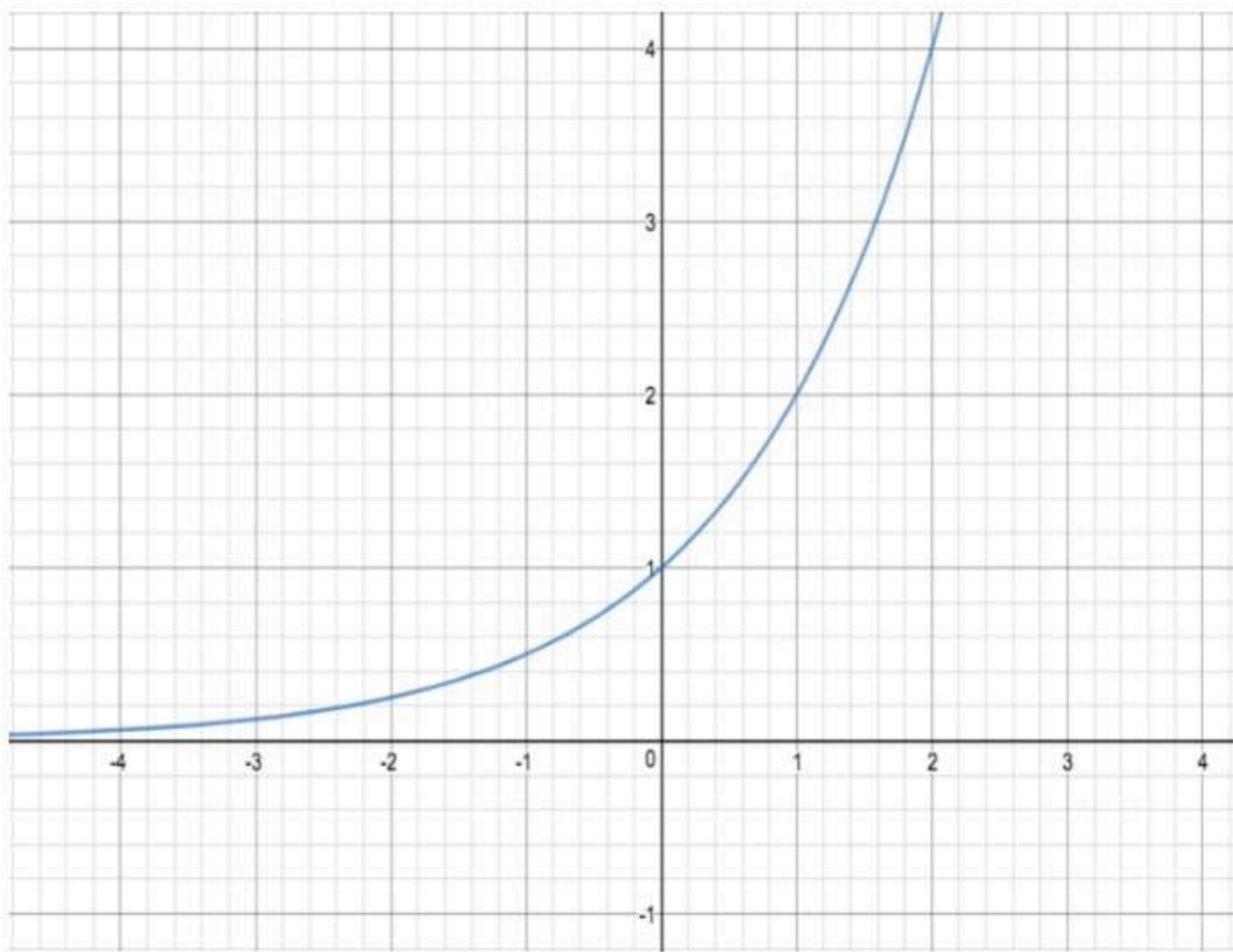
C **C**  $x \geq 4$

D **D**  $x \leq 0$  or  $x \geq 4$

**Question #6****Which is the solution of  $|\frac{3}{4}x - 3| - 8 \geq -5$ ??**

Question #7

What is the parent function for this graph?



- A **A**  $y = 3(2^x)$
- B **B**  $y = 2^x$
- C **C**  $y = 2^x + 3$
- D **D**  $y = 3(2^x) - 3$

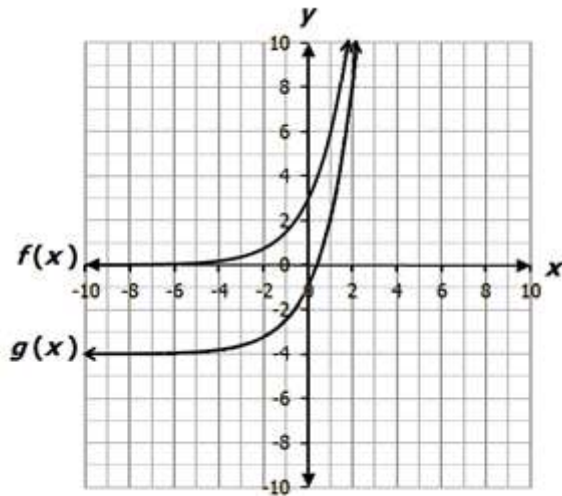
**Question #8**

**How does  $y = \sqrt{x} - 1$  affect the parent function  $y = \sqrt{x}$ ?**

- A **A** It shifts the parent function left 1 unit.
- B **B** It shifts the parent function right 1 unit.
- C **C** It shifts the parent function up 1 unit.
- D **D** It shifts the parent function down 1 unit.

**Question #9**

Two functions are shown on the coordinate grid.



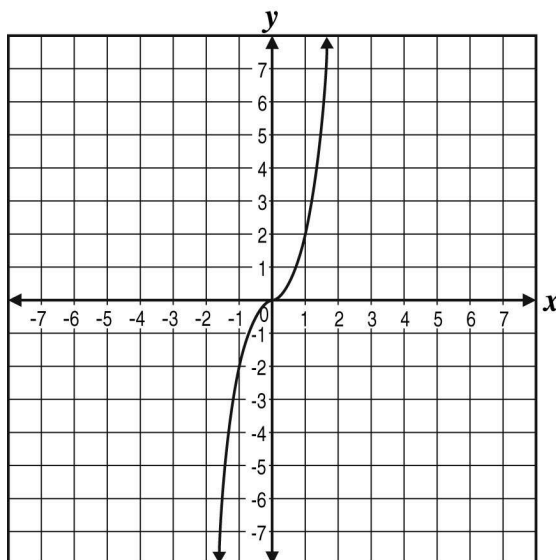
The functions can be written as shown.

$$\begin{aligned}f(x) &= 3(2)^x \\g(x) &= 3(2)^x + k\end{aligned}$$

What is the value of  $k$ ?

**Question #10**

Which equation *best* represents this graph?



- A  $y = -2x^3$
- B  $y = \frac{1}{8}x^3$
- C  $y = -\frac{1}{2}x^3$
- D  $y = 2x^3$

**Question #11**

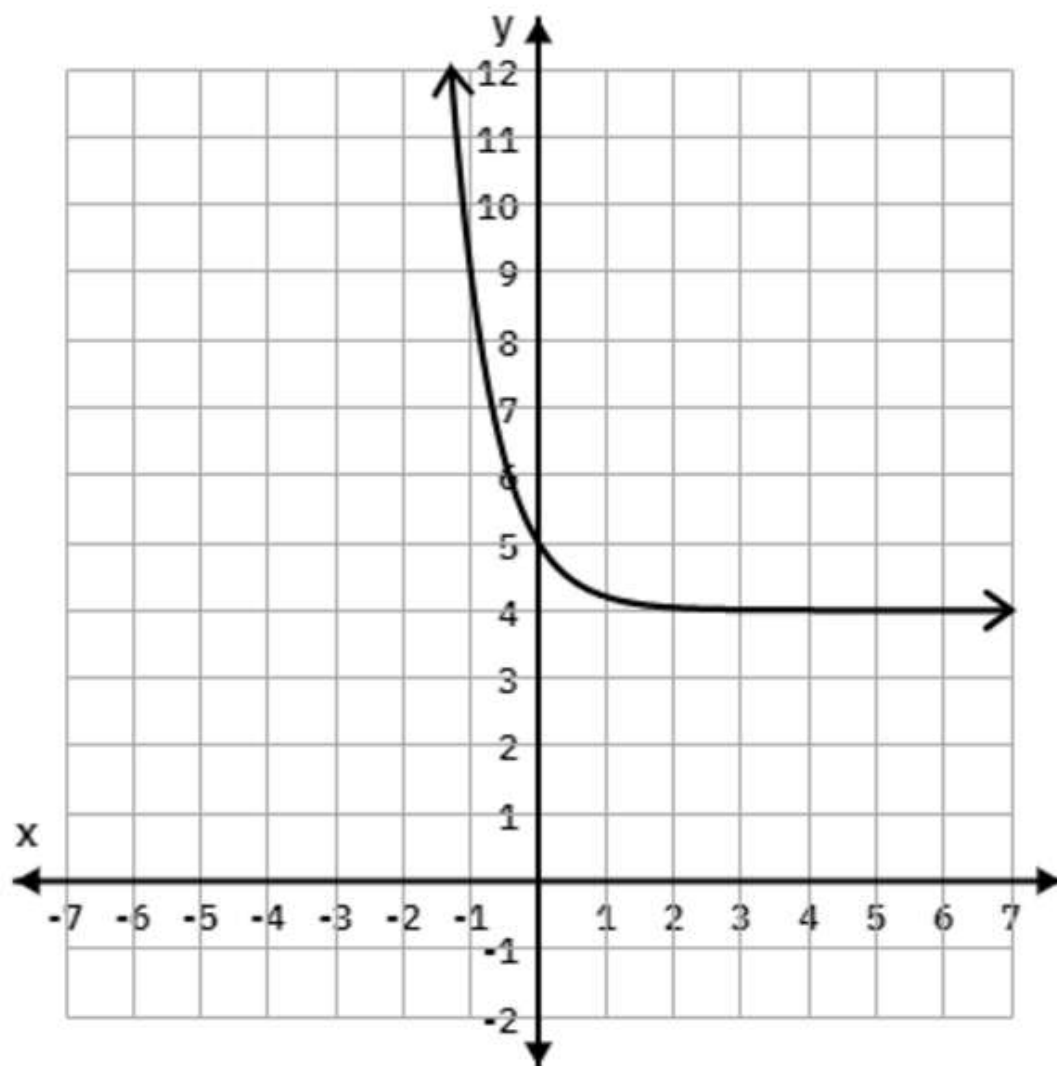
Which of the following is an x-intercept of  $f(x) = \log(3x - 8)$ ?

- A  $(\frac{3}{8}, 0)$
- B  $(\frac{1}{3}, 0)$
- C  $(3, 0)$
- D  $(6, 0)$



Question #12

The exponential function,  $f(x) = \left(\frac{1}{5}\right)^x + 4$ , is graphed below.

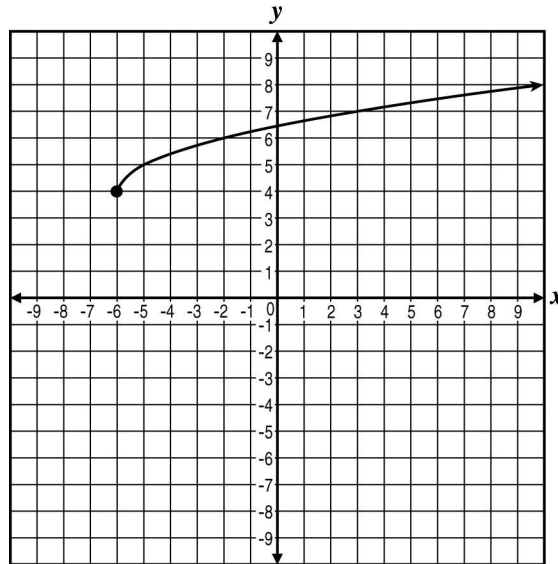


What is the range of  $f(x)$  ?

- A  $[4, \infty)$
- B  $(\infty, 4)$
- C  $(4, \infty)$
- D  $[\infty, 4)$

**Question #13**

The graph of a function is shown.



Which inequality represents the domain of the function?

A  $x \geq -6$

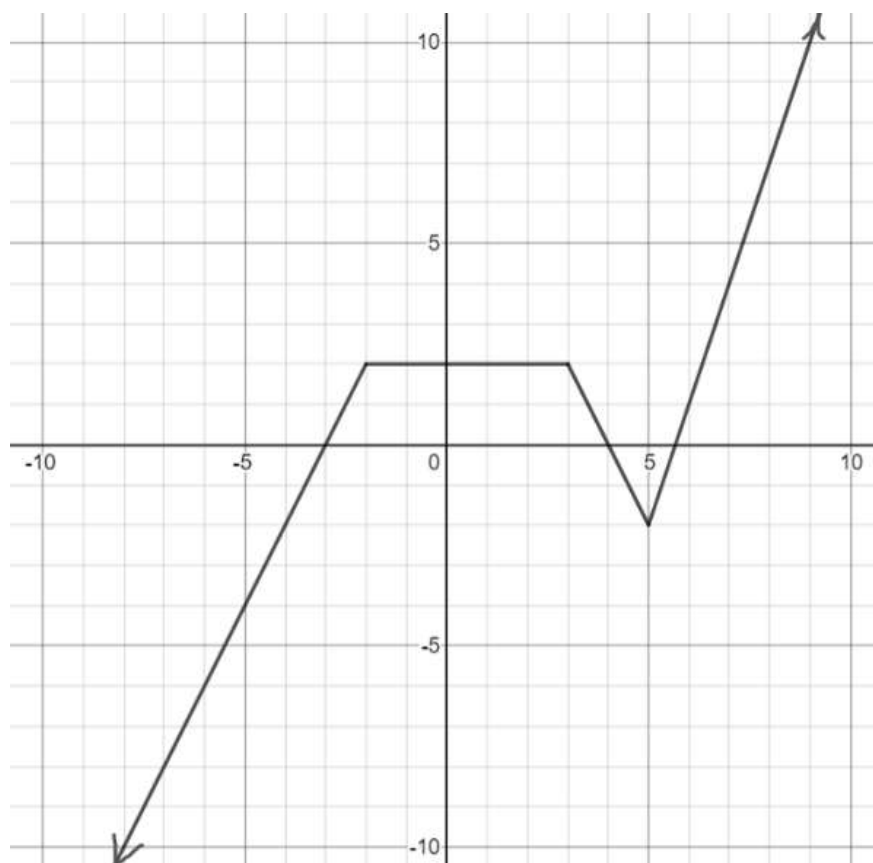
B  $y \geq 4$

C  $-6 \leq x \leq 10$

D  $4 \leq y \leq 8$

Question #14

Given the graph below, identify the decreasing interval(s), increasing interval(s), and constant interval(s).



Decreasing Interval(s)



Increasing Interval(s)



Constant Interval(s)



$$\{x \mid x > -2 \text{ and } x < 5\}$$

$$\{x \mid -5 < x < 5\}$$

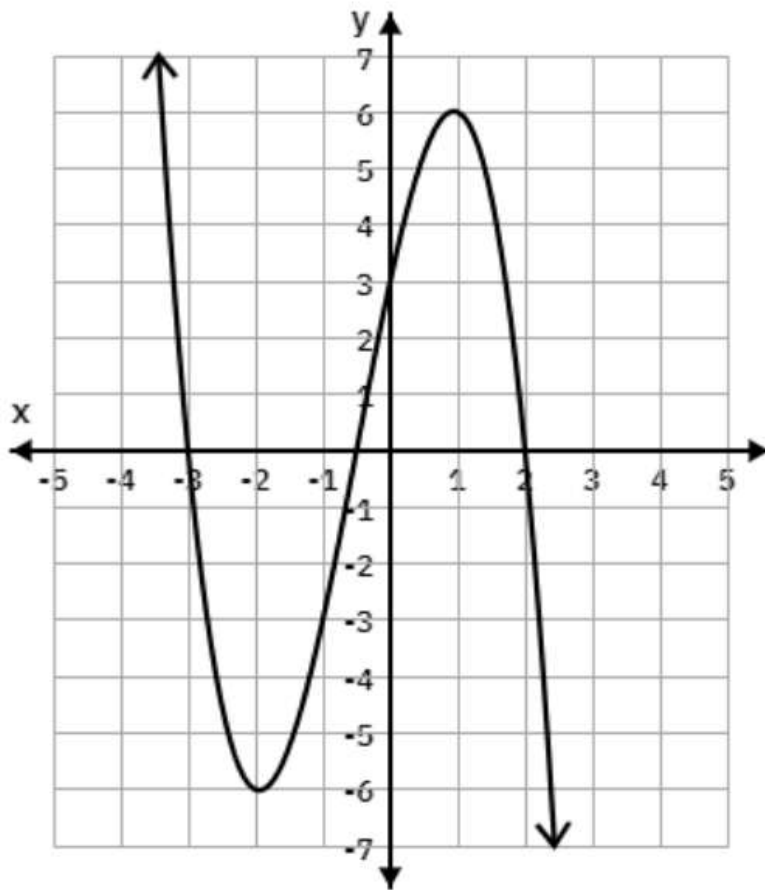
$$\{x \mid x < -2 \text{ and } x > 5\}$$

$$\{x \mid 3 < x < 5\}$$

$$\{x \mid -2 < x < 3\}$$

Question #15

The polynomial function  $f(x)$  is graphed below.

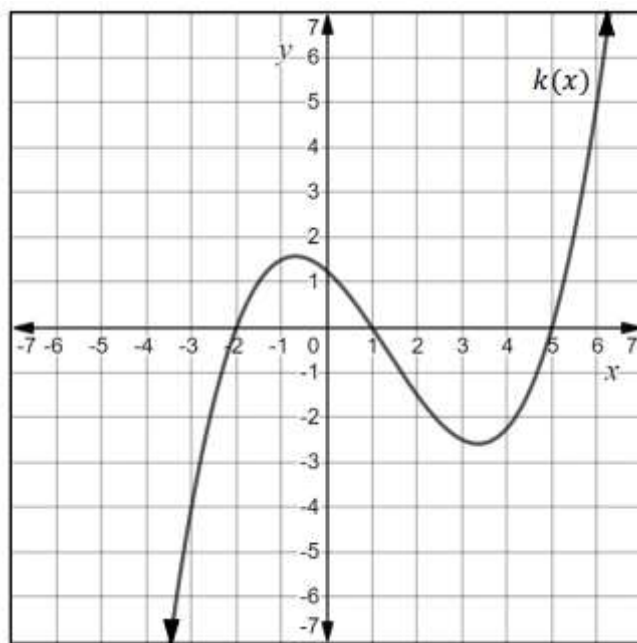


Which of the following best describes the extrema for the function  $f(x)$ ?

- A  $f(x)$  has a relative minimum where  $f(-6) = -2$  and a relative maximum where  $f(6) = 1$ .
- B  $f(x)$  has a relative minimum where  $f(1) = 6$  and a relative maximum where  $f(-2) = -6$ .
- C  $f(x)$  has a relative maximum where  $f(1) = 6$  and a relative minimum where  $f(-2) = -6$ .
- D  $f(x)$  has an absolute maximum where  $f(1) = 6$  and an absolute minimum where  $f(-2) = -6$ .

Question #16

The graph of the function  $k(x)$  is shown.



For each input  $x$  select all values of  $k(x)$  that appear to be positive.

$k(-4)$	$k(-2)$	$k(-1)$
$k(2)$	$k(5)$	$k(6)$