

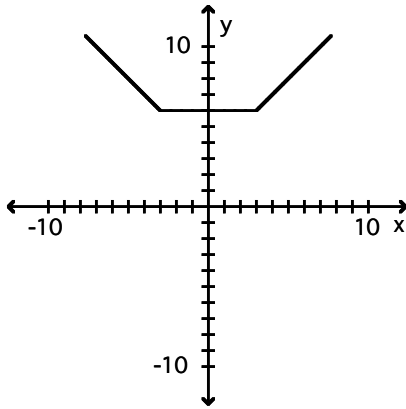
# Increasing and Decreasing Functions

**MULTIPLE CHOICE.** Choose the one alternative that best completes the statement or answers the question.

Determine the largest open intervals of the domain over which the function is increasing, decreasing, and constant.

1)

1) \_\_\_\_\_

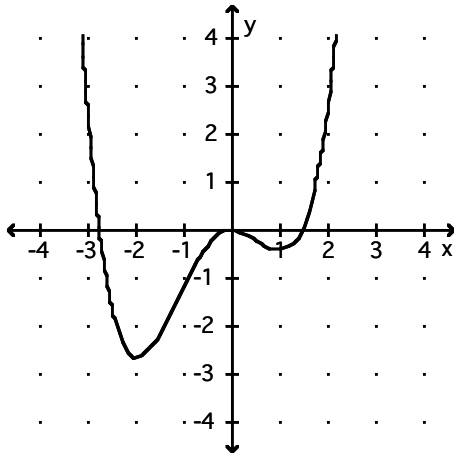


- A) Increasing  $(-\infty, 3)$ ; Decreasing  $(-\infty, -3)$ ; Constant  $(-3, 3)$
- B) Increasing  $(-\infty, 3)$ ; Decreasing  $(-3, \infty)$ ; Constant  $(-3, 3)$
- C) Increasing  $(3, \infty)$ ; Decreasing  $(-\infty, -3)$ ; Constant  $(-3, 3)$
- D) Increasing  $(3, \infty)$ ; Decreasing  $(-3, \infty)$ ; Constant  $(-3, 3)$

Use the graph of  $f$  to determine the intervals where  $f$  is increasing and where  $f$  is decreasing.

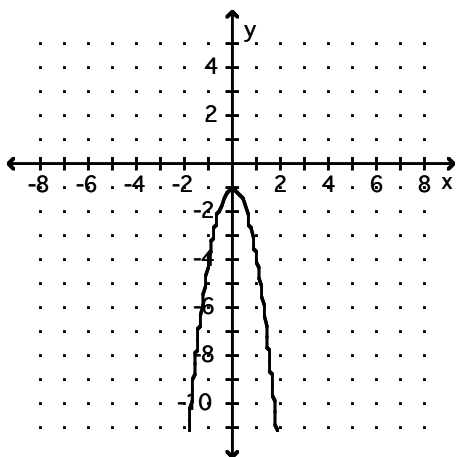
2)

2) \_\_\_\_\_



- A) increasing:  $[-2, \infty)$ ; decreasing:  $(-\infty, -2]$
- B) increasing:  $[0, \infty)$ ; decreasing:  $(-\infty, 0]$
- C) increasing:  $[-2, 0] \cup [1, \infty)$ ; decreasing:  $(-\infty, -2] \cup [0, 1]$
- D) increasing:  $[-2, 1]$ ; decreasing:  $(-\infty, -2] \cup [1, \infty)$

3)

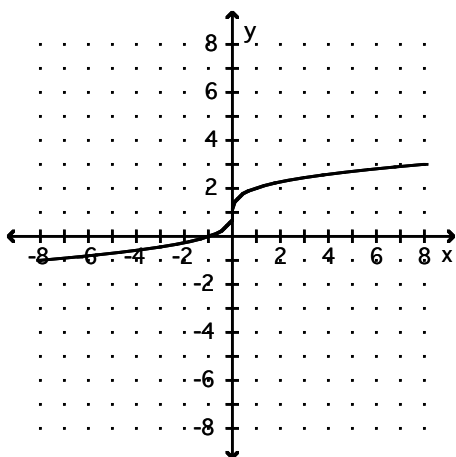


- A) increasing:  $(-\infty, 0]$ ; decreasing  $[0, \infty)$
- C) increasing: never; decreasing:  $(-\infty, \infty)$

- B) increasing:  $(-\infty, \infty)$ ; decreasing: never
- D) increasing:  $[0, \infty)$ ; decreasing  $(-\infty, 0]$

3) \_\_\_\_\_

4)

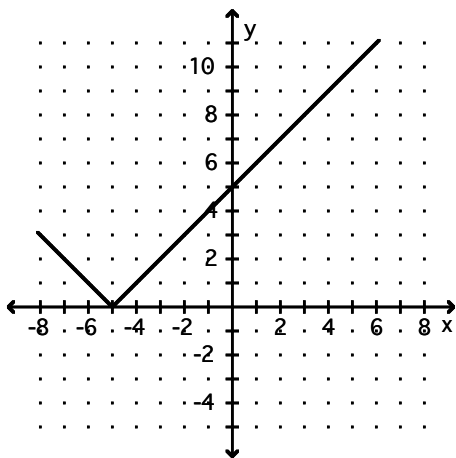


- A) increasing:  $(-\infty, 0]$ ; decreasing  $[0, \infty)$
- C) increasing: never; decreasing:  $(-\infty, \infty)$

- B) increasing:  $(-\infty, \infty)$ ; decreasing: never
- D) increasing:  $[0, \infty)$ ; decreasing  $(-\infty, 0]$

4) \_\_\_\_\_

5)



- A) increasing:  $(-\infty, 0]$ ; decreasing  $[0, \infty)$
- C) increasing:  $[-5, \infty)$ ; decreasing  $(-\infty, -5]$

- B) increasing:  $(-\infty, \infty)$ ; decreasing: never
- D) increasing:  $(-\infty, -5]$ ; decreasing  $[-5, \infty)$

5) \_\_\_\_\_

Answer Key

Testname: INCREASING AND DECREASING FUNCTIONS

- 1) C
- 2) C
- 3) A
- 4) B
- 5) C