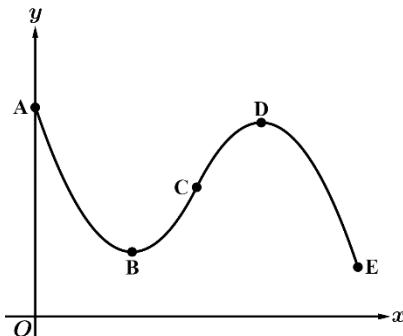


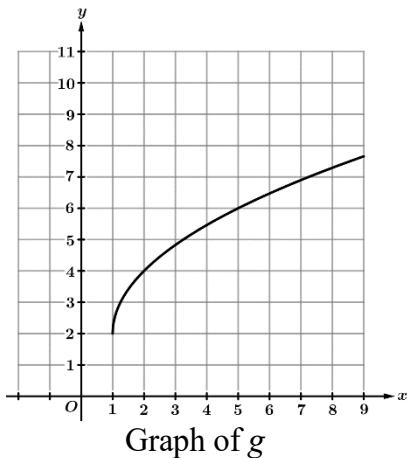
Worksheet D: (Topics 1.1 – 1.3) Increasing, Decreasing, and Concavity Name: _____



Graph of f

1. The figure above shows the graph of a function f . The extrema and the point of inflection of f are labeled. A, B, C, D, and E represent the x -coordinates at those points. Of the following, on which interval is f decreasing and the graph of f concave up?

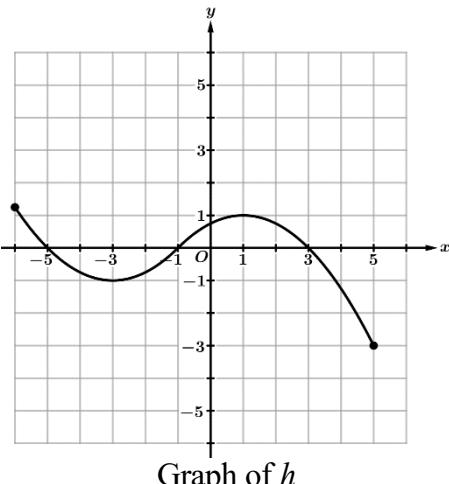
- (A) the interval from A to B
- (B) the interval from B to C
- (C) the interval from C to D
- (D) the interval from D to E



Graph of g

2. The graph of the function g is shown in the figure above. Which of the following best describes the function g over the interval $1 < x < 9$?

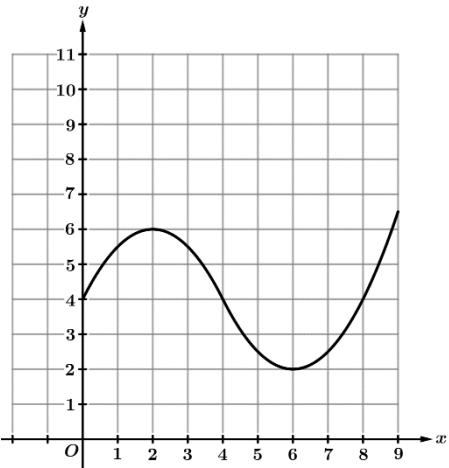
- (A) The function g is increasing at an increasing rate.
- (B) The function g is increasing at a decreasing rate.
- (C) The function g is decreasing at an increasing rate.
- (D) The function g is decreasing at a decreasing rate.



Graph of h

3. The graph of the function h is shown in the figure above on the interval $-6 \leq x \leq 5$. On which of the following intervals is the rate of change of h negative?

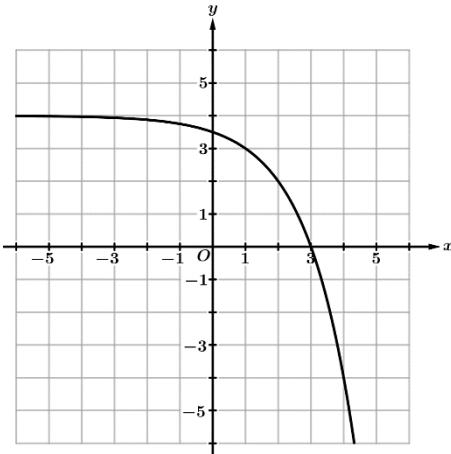
- (A) $(-5, -1)$ and $(3, 5)$
- (B) $(-1, 5)$
- (C) $(1, 5)$ only
- (D) $(-6, -3)$ and $(1, 5)$



Graph of k

4. The graph of a function k is shown in the figure for $0 \leq x \leq 9$. What are all the intervals of x on which the rate of change of k is negative and decreasing?

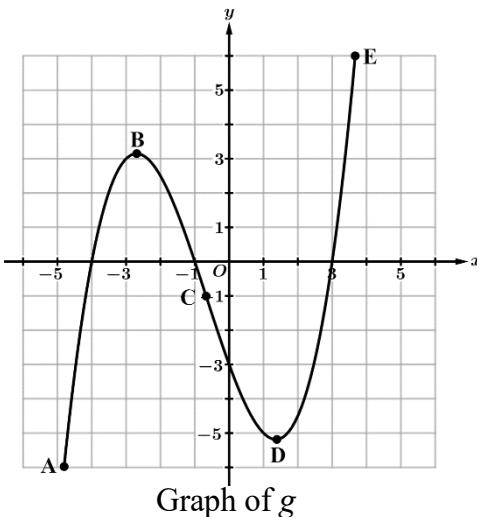
- (A) $(2, 6)$
- (B) $(0, 4)$
- (C) $(2, 4)$
- (D) $(4, 6)$



Graph of p

5. The graph of a function p is shown in the figure. Which of the following best describes the rate of change of p ?

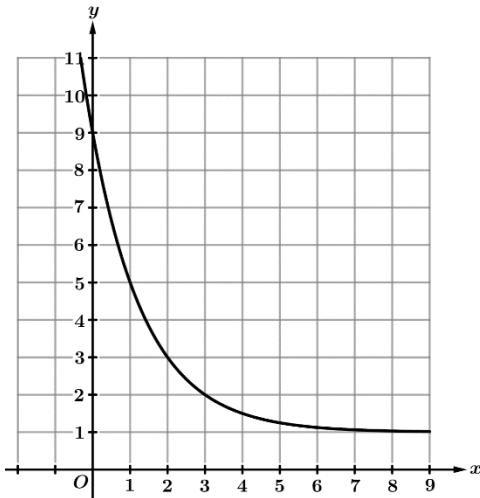
- (A) The rate of change of p is positive and increasing.
- (B) The rate of change of p is positive and decreasing.
- (C) The rate of change of p is negative and increasing.
- (D) The rate of change of p is negative and decreasing.



Graph of g

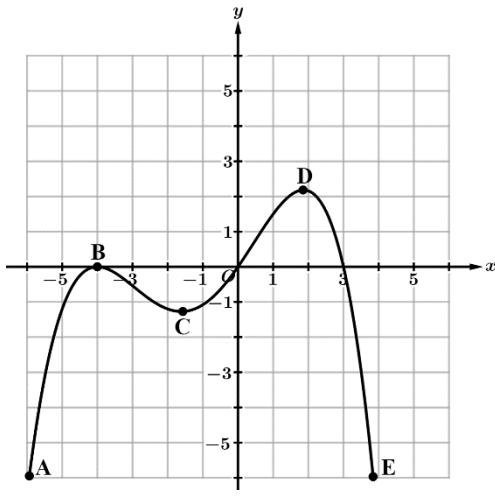
6. The figure shows the graph of a function g . The extrema for g are labeled, and the point of inflection of the graph of g is labeled. A, B, C, D and E represent the x -coordinates at those points. Of the following, on which intervals is the rate of change of g decreasing?

- (A) the interval from A to B only
- (B) the interval from B to C only
- (C) the interval from A to C
- (D) the interval from B to D



7. The figure shows the graph of a function h . Which of the following statements about h is true?

- (A) The function h is negative.
- (B) The function h is increasing.
- (C) The rate of change of h is positive.
- (D) The rate of change of h is increasing.



8. The graph of the function h is shown in the figure above. The extrema for h are labeled where A, B, C, D, and E represent the x -coordinates at those points. What are all the intervals of x on which h is decreasing?

- (A) the interval from A to B and the interval from C to D
- (B) the interval from B to C only
- (C) the interval from D to E only
- (D) the interval from B to C and the interval from D to E