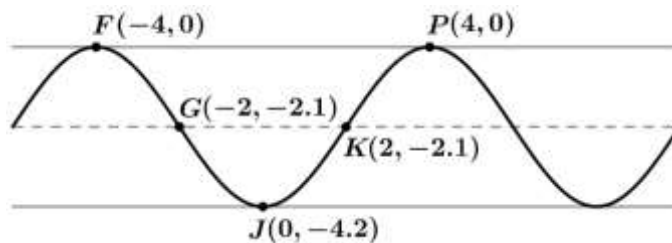


1. The graph of $h(t)$ and its dashed midline for two full cycles is shown. Five points, F , G , J , K , and P are labeled on the graph. No scale is indicated, and no axes are presented. The t -coordinate of G is t_1 , and the t -coordinate of J is t_2 .

(i) On the interval (t_1, t_2) , which of the following is true about h ?

- h is positive and increasing.
- h is positive and decreasing.
- h is negative and increasing.
- h is negative and decreasing.

(ii) Describe how the rate of change of h is changing on the interval (t_1, t_2) .

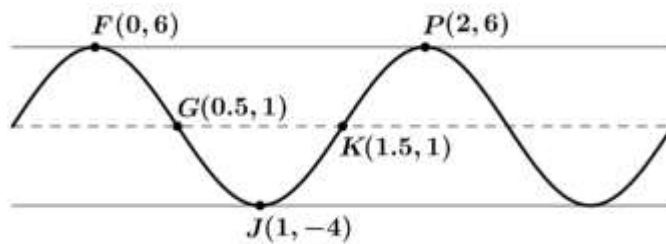


2. The graph of $h(t)$ and its dashed midline for two full cycles is shown. Five points, F , G , J , K , and P are labeled on the graph. No scale is indicated, and no axes are presented. The t -coordinate of K is t_1 , and the t -coordinate of P is t_2 .

(i) On the interval (t_1, t_2) , which of the following is true about h ?

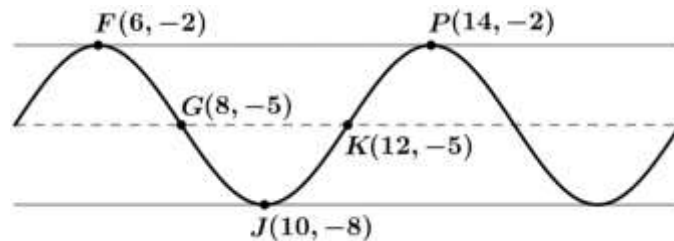
- h is positive and increasing.
- h is positive and decreasing.
- h is negative and increasing.
- h is negative and decreasing.

(ii) Describe how the rate of change of h is changing on the interval (t_1, t_2) .



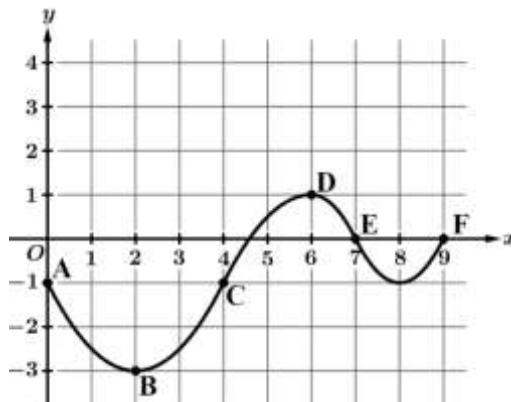
3. The graph of $h(t)$ and its dashed midline for two full cycles is shown. Five points, F , G , J , K , and P are labeled on the graph. No scale is indicated, and no axes are presented. The t -coordinate of F is t_1 , and the t -coordinate of G is t_2 .

- (i) On the interval (t_1, t_2) , which of the following is true about h ?
 - a. h is positive and increasing.
 - b. h is positive and decreasing.
 - c. h is negative and increasing.
 - d. h is negative and decreasing.
- (ii) Describe how the rate of change of h is changing on the interval (t_1, t_2) .



4. The graph of $h(t)$ and its dashed midline for two full cycles is shown. Five points, F , G , J , K , and P are labeled on the graph. No scale is indicated, and no axes are presented. The t -coordinate of J is t_1 , and the t -coordinate of K is t_2 .

- (i) On the interval (t_1, t_2) , which of the following is true about h ?
 - a. h is positive and increasing.
 - b. h is positive and decreasing.
 - c. h is negative and increasing.
 - d. h is negative and decreasing.
- (ii) Describe how the rate of change of h is changing on the interval (t_1, t_2) .



Graph of f

The figure shows the graph of the function f for the interval $0 \leq x \leq 9$, as well as the six labeled points: A, B, C, D, E, and F. Use the graph of f for the following examples.

5. On which of the following intervals is f negative and increasing?

- (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 E to F

6. Which of the following statements about the rate of change of f is true?

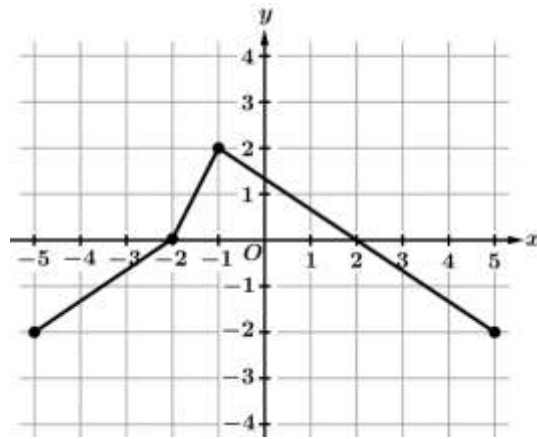
- (A) The rate of change of f is negative on the interval from B to C.
- (B) The rate of change of f is negative on the interval from C to D.
- (C) The rate of change of f is negative on the interval from D to E.
- (D) The rate of change of f is negative on the interval from E to F.

7. Which of the following statements about the rate of change of f is true?

- (A) The rate of change of f is decreasing on the interval from A to B.
- (B) The rate of change of f is decreasing on the interval from B to C.
- (C) The rate of change of f is increasing on the interval from C to D.
- (D) The rate of change of f is increasing on the interval from E to F.

8. On which of the following intervals 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 E to F

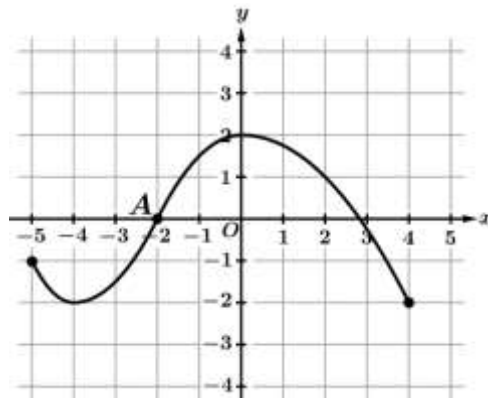


Graph of h

The figure shows the graph of the function h on the interval $-5 \leq x \leq 5$.

9. On what intervals is h increasing?

10. On what intervals is h both positive and decreasing?



Graph of g

The figure shows the graph of the function g on the interval $-5 \leq x \leq 4$. Point A is located at $(-2, 0)$ and is the only point where the graph of g changes concavity.

11. On what intervals is the rate of change of g negative?

12. On what intervals is the rate of change of g positive and decreasing?