

Finding The Extreme Values of a Function

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

Find the extreme values of the function and where they occur.

- 1) $y = x^2 + 2x - 3$ 1) _____
A) Absolute minimum is -1 at $x = 4$.
B) Absolute minimum is 1 at $x = -4$.
C) Absolute minimum is 1 at $x = 4$.
D) Absolute minimum is -4 at $x = -1$.
- 2) $y = x^3 - 3x^2 + 1$ 2) _____
A) Local minimum at (2, -3).
B) Local maximum at (0, 1), local minimum at (2, -3).
C) Local maximum at (0, 1).
D) None
- 3) $y = x^3 - 12x + 2$ 3) _____
A) None
B) Local maximum at (-2, 18), local minimum at (2, -14).
C) Local maximum at (2, -14), local minimum at (-2, 18).
D) Local maximum at (0, 0).
- 4) $y = \frac{1}{x^2 + 1}$ 4) _____
A) Absolute maximum value is 1 at $x = 0.5$, absolute minimum value is -1 at $x = 0.5$.
B) Absolute maximum value is 1 at $x = 0.5$.
C) Absolute minimum value is -1 at $x = 0.5$.
D) Absolute maximum value is 1 at $x = 0$.
- 5) $y = (x + 1)^{2/3}$ 5) _____
A) Absolute minimum value is 0 at $x = 1$.
B) Absolute minimum value is 0 at $x = -1$.
C) Absolute maximum value is 0 at $x = 1$.
D) There are no definable extrema.
- 6) $y = (x - 2)^{2/3}$ 6) _____
A) Absolute minimum value is 0 at $x = -2$.
B) Absolute minimum value is 0 at $x = 2$.
C) Absolute maximum value is 0 at $x = -2$.
D) There are no definable extrema.
- 7) $y = x^3 - 3x^2 + 6x - 8$ 7) _____
A) Absolute minimum is 4 at $x = -1$.
B) Absolute maximum is 4 at $x = 1$.
C) None
D) Absolute maximum is 4 at $x = 2$.
- 8) $y = x^3 - 3x^2 + 5x - 6$ 8) _____
A) Absolute maximum is 2 at $x = 1$.
B) None
C) Absolute minimum is 2 at $x = -1$.
D) Absolute maximum is 2 at $x = 2$.

Answer Key

Testname: FINDING THE EXTREME VALUES OF A FUNCTION

- 1) D
- 2) B
- 3) B
- 4) D
- 5) B
- 6) B
- 7) C
- 8) B