

Extrema and Average Rates of Change

 Bell work

1. Complete the following statement.

- a. _____ are critical points at which a function changes its increasing or decreasing behavior. At these points, the function has a maximum or a minimum value, either relative or absolute.
- b. _____, the graph changes its shape, but not its increasing or decreasing behavior.

2. Write T for true or F for false

- a. A relative maximum value of a function is the greatest y -value on some interval of the domain.
- b. The least value that a function assumes over its domain is called the absolute maximum.

Multiple Choices

3. Which of the following is the average rate of change of $f(x) = 2x^2 + x - 2$ over the interval $[2; 0]$

- a. 5
- b. -5
- c. 2

4. Which of the following is the average rate of change of $f(x) = x^3 - 2$ over the interval $[0; 1]$

- a. -1
- b. 1
- c. 2

5. Which of the following is the average rate of change of $f(x) = \sqrt{x}$ over the interval $[25; 16]$

- a. $-\frac{1}{5}$
- b. $\frac{1}{9}$
- c. $-\frac{1}{9}$

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ANSWERS

1. Complete the following statement.

- a. **Extrema** are critical points at which a function changes its increasing or decreasing behavior. At these points, the function has a maximum or a minimum value, either relative or absolute.
- b. **At points of inflection**, the graph changes its shape, but not its increasing or decreasing behavior.

2. Write T for true or F for false

- a. A relative maximum value of a function is the greatest y -value on some interval of the domain. **T**
- b. The least value that a function assumes over its domain is called the absolute maximum. **F**

Multiple Choices

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