



## Average Rate of Change - Function and 2 X-Coordinates to Slope Expression

1 Write the expression for the average rate of change of this function between the two x-values.

$$f(x) = \frac{1}{x}$$

$$f(1) = ?$$

$$f(3) = ?$$

A  $\frac{0.3 - 1}{3 - 1}$     B  $\frac{3 - 1}{0.3 - 1}$     C  $\frac{1 - 0.3}{3 - 1}$

D  $\frac{0.3 - 1}{1 - 3}$

2 Write the expression for the average rate of change of this function between the two x-values.

$$f(x) = \sqrt{x}$$

$$f(0) = ?$$

$$f(1) = ?$$

A  $\frac{1 - 0}{0 - 1}$     B  $\frac{1 - 0}{1 - 0}$     C  $\frac{0 - 1}{1 - 0}$

3 Write the expression for the average rate of change of this function between the two x-values.

$$f(x) = x^3$$

$$f(1) = ?$$

$$f(3) = ?$$

A  $\frac{1 - 27}{3 - 1}$     B  $\frac{27 - 1}{1 - 3}$     C  $\frac{27 - 1}{3 - 1}$

D  $\frac{3 - 1}{27 - 1}$

4 Write the expression for the average rate of change of this function between the two x-values.

$$f(x) = 2 \cos\left(\frac{\pi x}{4}\right)$$

$$f(2) = ?$$

$$f(0) = ?$$

A  $\frac{0 - 2}{0 - 2}$     B  $\frac{2 - 0}{2 - 0}$

C  $\frac{2 - 0}{0 - 2}$

5 Write the expression for the average rate of change of this function between the two x-values.

$$f(x) = x^2$$

$$f(-1) = ?$$

$$f(-2) = ?$$

A  $\frac{(-2) - (-1)}{4 - 1}$     B  $\frac{4 - 1}{(-1) - (-2)}$     C  $\frac{1 - 4}{(-2) - (-1)}$

D  $\frac{4 - 1}{(-2) - (-1)}$

6 Write the expression for the average rate of change of this function between the two x-values.

$$f(x) = \frac{1}{x}$$

$$f(1) = ?$$

$$f(2) = ?$$

A  $\frac{0.5 - 1}{1 - 2}$     B  $\frac{2 - 1}{0.5 - 1}$     C  $\frac{0.5 - 1}{2 - 1}$

D  $\frac{1 - 0.5}{2 - 1}$

7 Write the expression for the average rate of change of this function between the two x-values.

$$f(x) = \frac{1}{x}$$

$$f(-1) = ?$$

$$f(-3) = ?$$

A  $\frac{(-0.3) - (-1)}{(-3) - (-1)}$     B  $\frac{(-3) - (-1)}{(-0.3) - (-1)}$     C  $\frac{(-0.3) - (-1)}{(-1) - (-3)}$

D  $\frac{(-1) - (-0.3)}{(-3) - (-1)}$

8 Write the expression for the average rate of change of this function between the two x-values.

$$f(x) = x - 1$$

$$f(1) = ?$$

$$f(3) = ?$$

A  $\frac{2 - 0}{3 - 1}$     B  $\frac{2 - 0}{1 - 3}$     C  $\frac{0 - 2}{3 - 1}$