평균 변화율과 순간 변화율 (The average rate of change and the instantaneous rate of change)



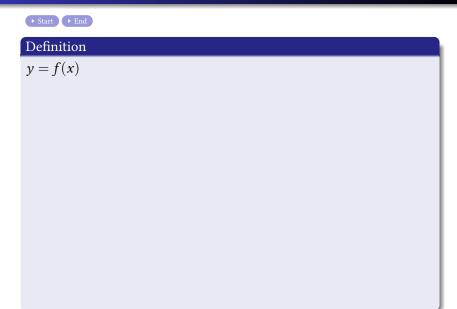
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Definition

Min Eun Gi : https://min7014.github.io



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Definition

y = f(x) is a function.

Min Eun Gi : https://min7014.github.io

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y = f(x) is a function.

$$\frac{f(x_2)-f(x_1)}{x_2-x_1}$$

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$$\frac{f(x_2) - f(x_1)}{x_2 - x_1} = \frac{\text{The increment of } y}{\text{The increment of } x}$$

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y = f(x) is a function.

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The average rate

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The average rate of change of y

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The average rate of change of y whith respect to x

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The average rate of change of *y* which respect to *x* over the interval $[x_1, x_2]$ or $[x_2, x_1]$

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$$f'(x_1) =$$

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$$f'(x_1) = \lim_{\Delta x \to \infty} f'(x_1) = \int_{\Delta x \to \infty$$

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The instantaneous rate

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The instantaneous rate of change of y

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The instantaneous rate of change of y with respect to x

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The instantaneous rate of change of *y* with respect to *x* at $x = x_1$

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The instantaneous rate of change of *y* with respect to *x* at $x = x_1$

The derivative f'(a)

▶ Start ▶ End

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The instantaneous rate of change of *y* with respect to *x* at $x = x_1$

The derivative f'(a) is the instantaneous rate

▶ Start ▶ End

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The instantaneous rate of change of *y* with respect to *x* at $x = x_1$

The derivative f'(a) is the instantaneous rate of change of y = f(x)

▶ Start ► End

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The instantaneous rate of change of *y* with respect to *x* at $x = x_1$

The derivative f'(a) is the instantaneous rate of change of y = f(x) with respect to x

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The instantaneous rate of change of *y* with respect to *x* at $x = x_1$

The derivative f'(a) is the instantaneous rate of change of y = f(x) with respect to *x* when x = a.

▶ Start ► End

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The derivative f'(a) is the instantaneous rate of change of y = f(x) with respect to *x* when x = a.

Github: https://min7014.github.io/math20240129001.html

Click or paste URL into the URL search bar, and you can see a picture moving.