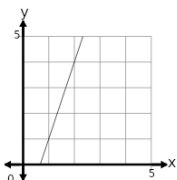


Estimate instantaneous rate of change graphically

1

Find the slope of the line



A -1.2

B 0.33

C 0.75

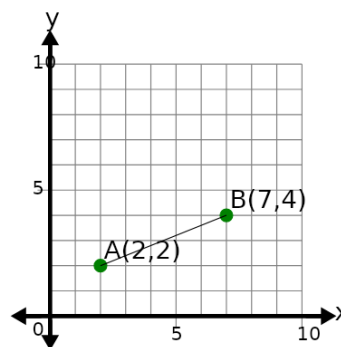
D 3

E 1.8

F -2.25

2

How would you find the slope of segment AB?



A

$$\frac{4-2}{7-2}$$

B

$$\frac{7-2}{4-2}$$

3

(4, 3) and (9, 7)

A

0.5

B

-0.48

C

-2

D

1.5

E

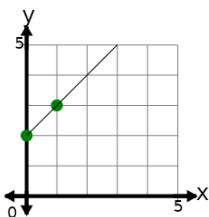
0.8

F

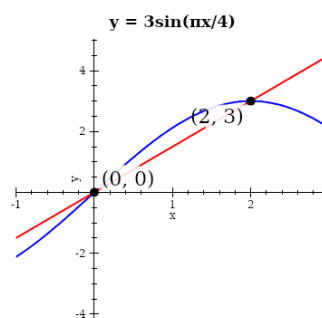
2.24

4

What slope does the line on this graph have?

A $m=-1$ B $m=0.5$ C $m=1$ **5**

Write the expression for the average rate of change shown by the secant line between the two marked points (0, 0) and (2, 3).



A

$$\frac{3-0}{2-0}$$

B

$$\frac{3-0}{0-2}$$

C

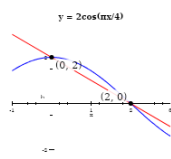
$$\frac{0-3}{2-0}$$

D

$$\frac{2-0}{3-0}$$

6

Find the average rate of change shown by the secant line between the two marked points (0, 2) and (2, 0).

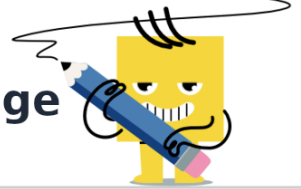


A 1

B -1

C -2

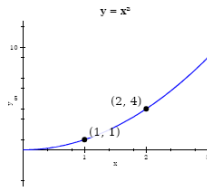
D 1.9



Estimate instantaneous rate of change graphically

7

Find the average rate of change between the two marked points (1, 1) and (2, 4).



A 4.2

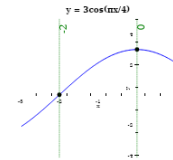
B 3

C -3

D 0.3

8

Find the average rate of change between the two highlighted x-values $x = -2$ and $x = 0$.



A 1.5

B -1.5

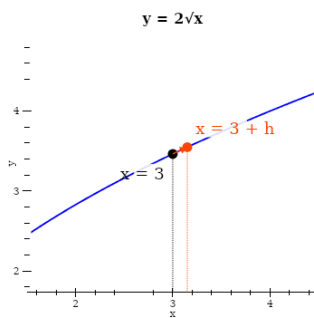
C 0.7

D 3

E 1.1

9

Set up the slope (difference quotient) of this function between the marked point and the nearby point at $x + h$.



$$\text{A } \frac{2\sqrt{3+h} + 2\sqrt{3}}{(3+h) - 3}$$

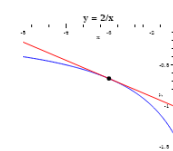
$$\text{B } \frac{(3+h) - 3}{2\sqrt{3+h} - 2\sqrt{3}}$$

$$\text{C } \frac{2\sqrt{3} - 2\sqrt{3+h}}{(3+h) - 3}$$

$$\text{D } \frac{2\sqrt{3+h} - 2\sqrt{3}}{(3+h) - 3}$$

10

Estimate the instantaneous rate of change (the slope of the tangent line) at the marked point. Note: the y-axis may not be the same scale as the x-axis.



A about 1

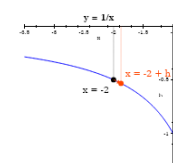
B about -0.2

C about 0.5

D about 1.5

11

Estimate the instantaneous rate of change at the marked point by adding a second point very near to it. Note: the y-axis may not be the same scale as the x-axis.



A about 1.5

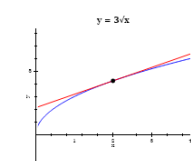
B about -0.3

C about 0.5

D about 1

12

Estimate the instantaneous rate of change (the slope of the tangent line) at the marked point. Note: the y-axis may not be the same scale as the x-axis.



A about -0.5

B about 0.5

C about 1.1

D about -1