

Math 263A Group Work: Representations of Slopes

The expressions in the left column are meant to represent a number m , a number that is the slope of a line on the graph of the function f . In each case, draw the line on the graph of f , or write the missing expression based on the line shown in the graph, and then give the value of the number m represented by the expression.

<u>Example</u>	<u>Expression representing the number m</u>	<u>Line whose slope is the number m</u>	<u>The number m</u>
(1)	the average rate of change of f as the input changes from 1 to 5		$m =$
(2)	the derivative of f at $x = 1$		$m =$
(3)	the instantaneous rate of change of f at $x = 4$		$m =$
(4)			$m =$
(5)	$\lim_{h \rightarrow 0} \frac{f(3+h) - f(3)}{h}$		$m =$

Example

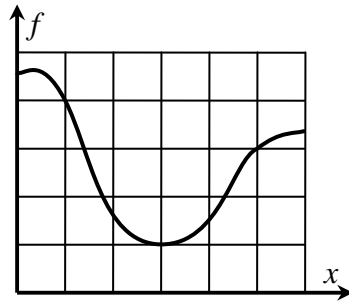
Expression representing the number m

Line whose slope is the number m

The number m

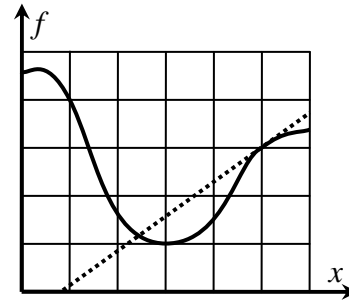
(6)

$$\frac{f(4) - f(2)}{4 - 2}$$



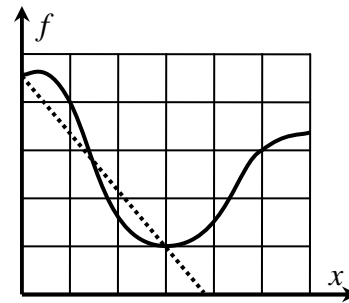
$m =$

(7)



$m =$

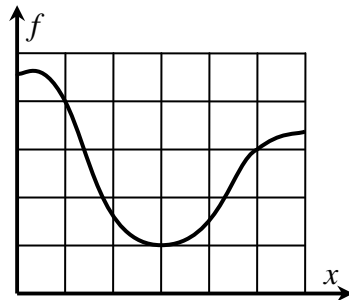
(8)



$m =$

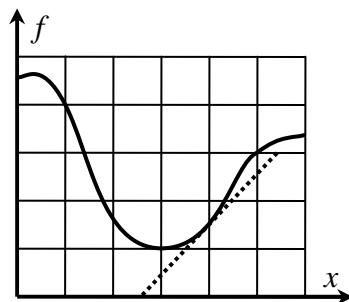
(9)

$$f'(2)$$



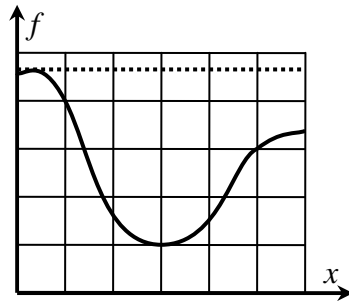
$m =$

(10)



$m =$

(11)



$m =$