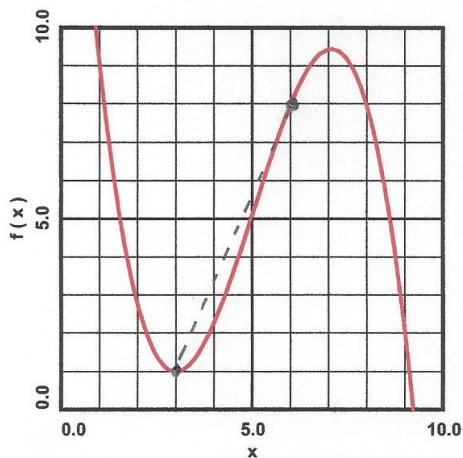


PRE-AP ALGEBRA 2

- 1) Find the average rate of change of $f(x) = 2x^2 - 8x + 11$ with respect to x on the interval $5 \leq x \leq 10$.

$$m = \frac{f(10) - f(5)}{10 - 5} = \frac{131 - 21}{10 - 5} = 22$$

- 2) For the function $y = f(x)$ defined by the graph, calculate the average rate of change of f with respect to x on the interval $3 \leq x \leq 6$.



$$m = \frac{f(6) - f(3)}{6 - 3} = \frac{9 - 1}{6 - 3} = \frac{8}{3} = 2\frac{2}{3}$$

1B.1 CLASSWORK

- 3) The table gives the height y , in feet, as a function of time t , in seconds, for a rock which was dropped off of a 256 foot-tall cliff.

t	y
0	256
1	240
2	192
3	112
4	0

Find the average rate of change of y with respect to t for the intervals

- $0 \leq t \leq 1$ sec
- $1 \leq t \leq 2$ sec
- $2 \leq t \leq 3$ sec
- $3 \leq t \leq 4$ sec
- What is the physical meaning of these rates of change?

$$a) \frac{\Delta y}{\Delta t} = \frac{240 - 256}{1 - 0} = -16 \frac{ft}{sec}$$

$$b) \frac{\Delta y}{\Delta t} = \frac{192 - 240}{2 - 1} = -48 \frac{ft}{sec}$$

$$c) \frac{\Delta y}{\Delta t} = \frac{112 - 192}{3 - 2} = -80 \frac{ft}{sec}$$

$$d) \frac{\Delta y}{\Delta t} = \frac{0 - 112}{4 - 3} = -112 \frac{ft}{sec}$$

- e) They are the (downward) velocity of the rock