

M 191

Lect #10

2-23-09

$$y = f(x) = x^2 + 3x - 8$$

ave rate of change from 1 to 4

$$= \frac{-4 - 20}{1 - 4} = \frac{-24}{-3} = 8$$

x	y	y'
1	$1 + 3 - 8 = -4$	5
4	$16 + 12 - 8 = 20$	

instantaneous rate of change at $x=1$

$$y' = f'(x) = 2x + 3$$

$$f'(1) = 2 \cdot 1 + 3 = 5$$

$$\Delta = t^2 + 3t - 8$$

$$v = \frac{d\Delta}{dt} = 2t + 3$$

t	Δ	Δ'
$-\frac{3}{2}$		0

$$0 = 2t + 3$$

$$-3 = 2t$$

$$t = -\frac{3}{2}$$