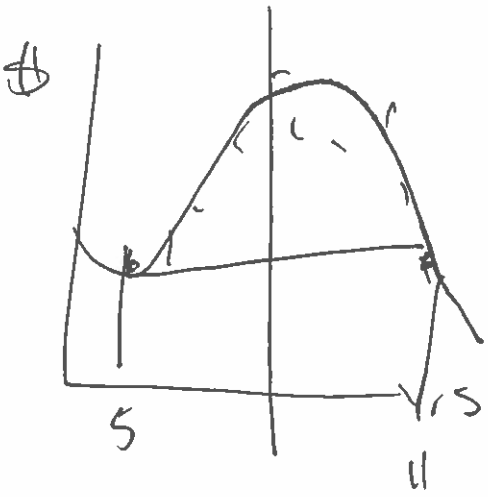
#1

x years	5	6	7	8	9	10	11
# million	5			15			

#2

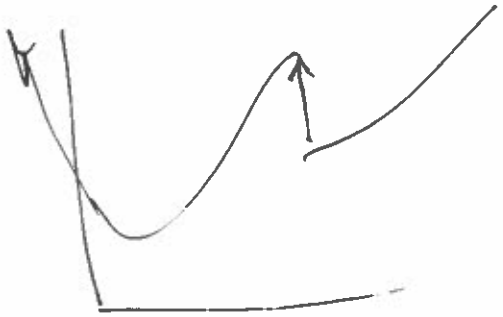
$$\frac{Y_1(5) - Y_1(11)}{5 - 11}$$

#4



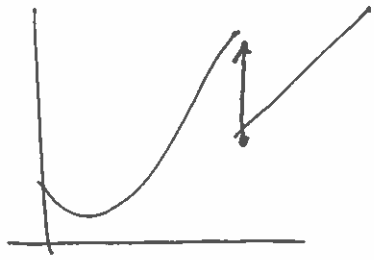
Ave. .54 $/yr.

(3)



$$\lim_{x \to \infty} E = \infty$$

$$\lim_{x \to -\infty} Q = \infty$$



Left. Quant
Rig Exp.

$x = 8.$

$$\lim_{x \to 8^-} Q. = 13.23$$

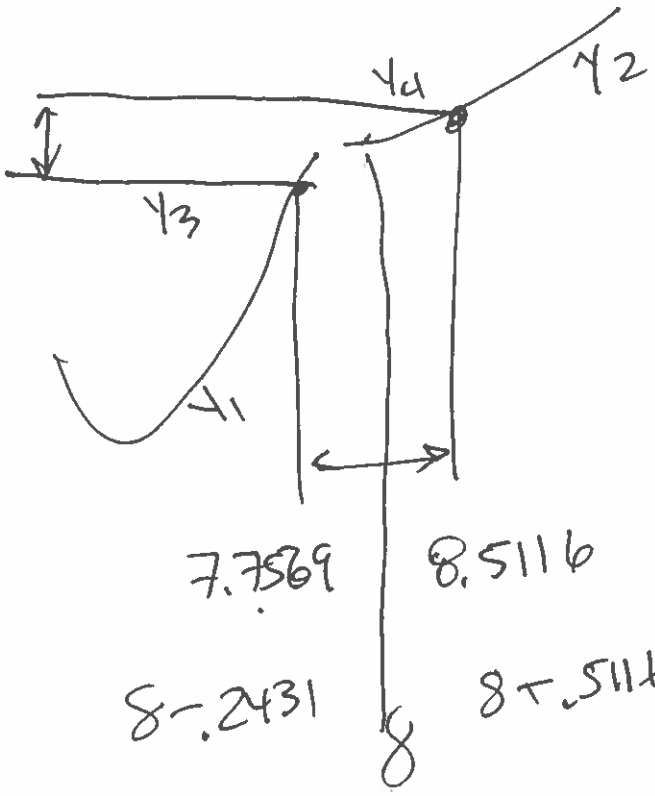
$$\lim_{x \to 8^+} E = 9.41$$

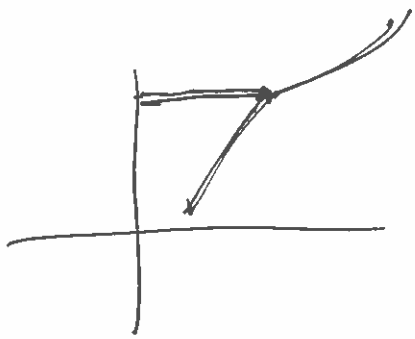
(4)

$$Y_2(8) - Y_1(8) = -3.91947$$

$$\lim_{x \to \infty} C(x) = 13.333$$

$\varepsilon = .5$





IF $\delta = .24$ and $\epsilon = .5$

Then $|f(x) - 13.33| < .5$

$|x - \delta| < .24$

$$\frac{Y_1(11)-Y_1(5)}{11-5} = .54$$

$$\frac{Y(9)-Y_1(7)}{9-7} = 1.65$$

$$\frac{Y_1(8.1)-Y_1(7.9)}{8.1-7.9} = 1.79$$

$$\frac{dy}{dx} = 1.7936$$

X_1	5
X_2	7
X_3	7.9
a	8
X_4	8.1
X_5	9
X_6	11

$$\lim_{n \to 0} \frac{\Delta y}{\Delta x}$$

$Y_1(8) = .82$

$Y_2(8) = .82$

$Y_3(8) = 1.79$

$Y_4(8) = 1.79$

$y = b \ln x$

$y' = 0 + b/x$

Table

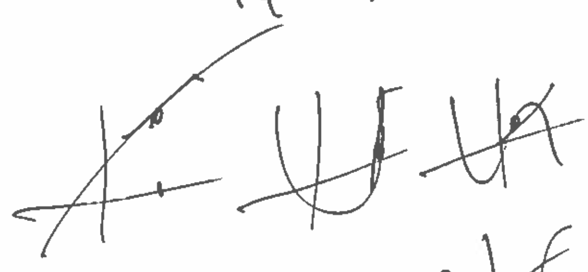
x=8

x=5

x=8

x=11

x=13



$Y_6(8) = 1.2$

$Y_6(8)$ [illegible] .40

New X / Years

2005 → 5

Yrs after 200 X	Millio Y
5	5
6	11
7	15
8	18

$

5 → 5,000,000

$Y_1 = X - 2000$

$Y_{1/2}$ = Quarti

$Y_3 = 1{,}000{,}000X$

Yrs — Month

$\frac{1}{x}$ → ~~...2~~ = 12

12X

c

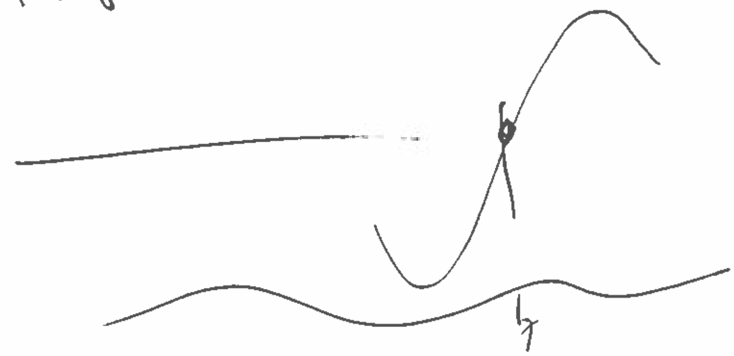
$Y_1'(8) = .82$ Mill/Yr

↓

$Y_2'(2008) = 820{,}000$ \$/Yr

Years   Years after 2000

Yrs after 2000   People Murdered



Ave Rate Betwe 5 & 11
ON Sinreg

−.161796... $/Yr

Calc 5 <enter> x3

x = 7.79

2007.79   Instantaneous = Average over 5 to 11 with Sinreg

Infle

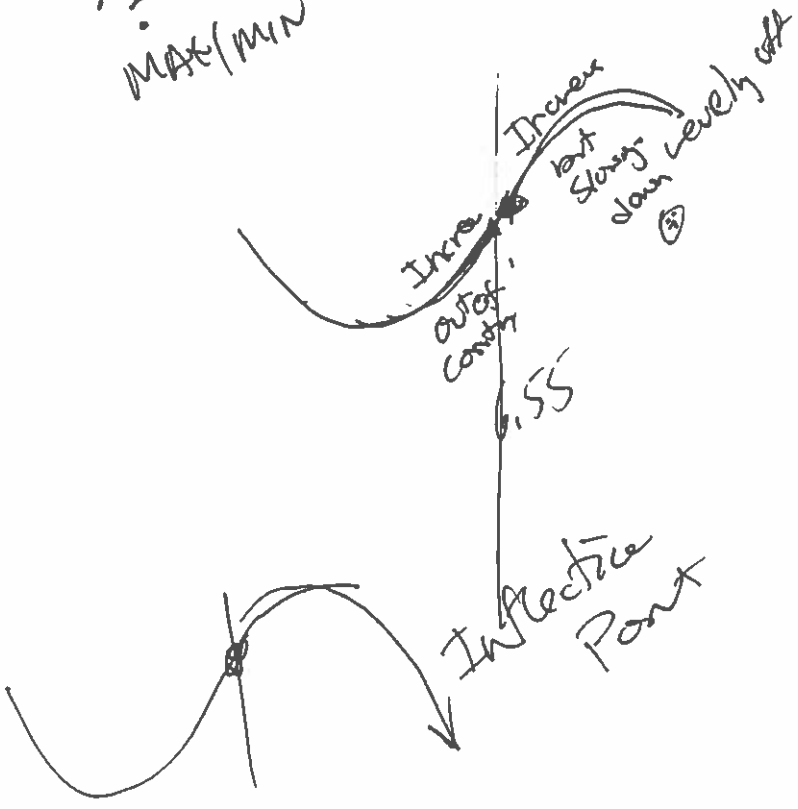
$y'' = 0$

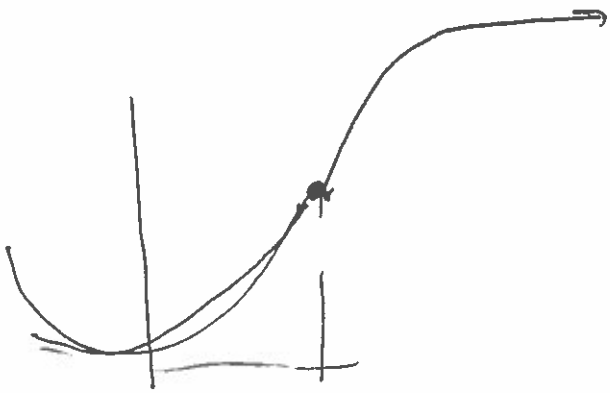
$y_3'' = 0$. Zero. $y_3 \Rightarrow$ 6.55 after 11.

or

$y_2'' = 0$ Max 6.55

MAX/MIN





Val 5.5
Error 5.1

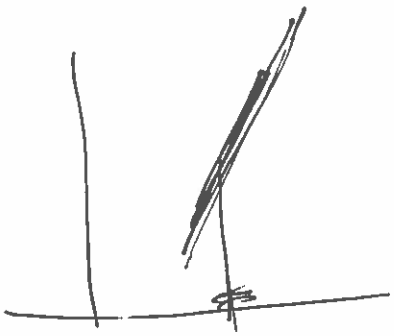
16 < 16.5 / 15.5

$16 \pm .5$

7 ± 5.1

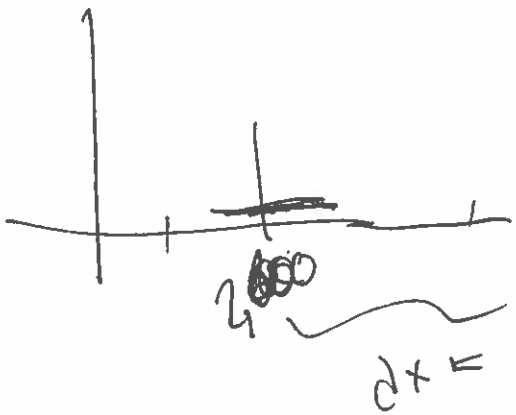
43.5 < 44 / 43

$43.5 \pm .5$



a

~~40~~ 43 ± 10

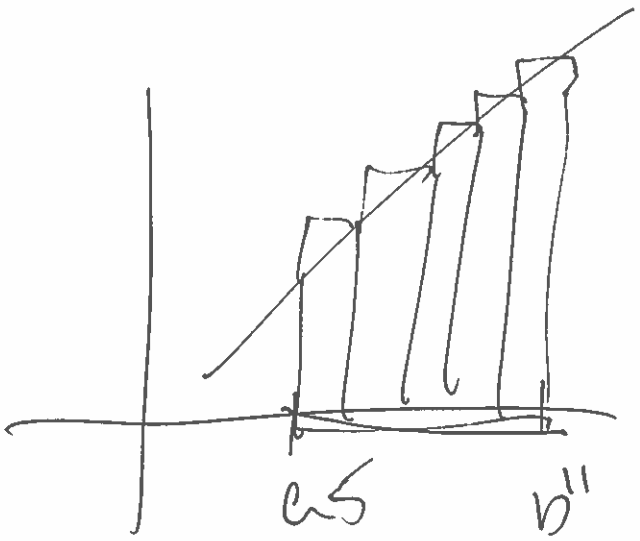


dx =

Ave. Vale.

$$\frac{\int_a^b f(x)\,dx}{b-a} = \frac{\text{Area}}{\text{length}}$$

Line $Y = AX + B$



$A = .82 \quad B = 3.4$

$a = 5 \quad b = 11$

$$A(n) = \left(\sum_{i=1}^{n} \underbrace{A\left(5 + \frac{6}{n} i\right) + B}_{.82\left(5 + \frac{6}{n} i\right) + 3.4} \right) \underbrace{\frac{6}{n}}_{\Delta x}$$

Δx_i

$$\Delta x = \frac{b-a}{n} = \frac{6}{n}$$

$$\left(\sum \; .82 \cdot 5 + .82 \cdot \frac{6}{n} i + 3.4 \right) \frac{6}{n}$$

~~44.225~~

$$\lim_{n \to \infty} A(n) = \int_a^b Ax + B \, dx$$