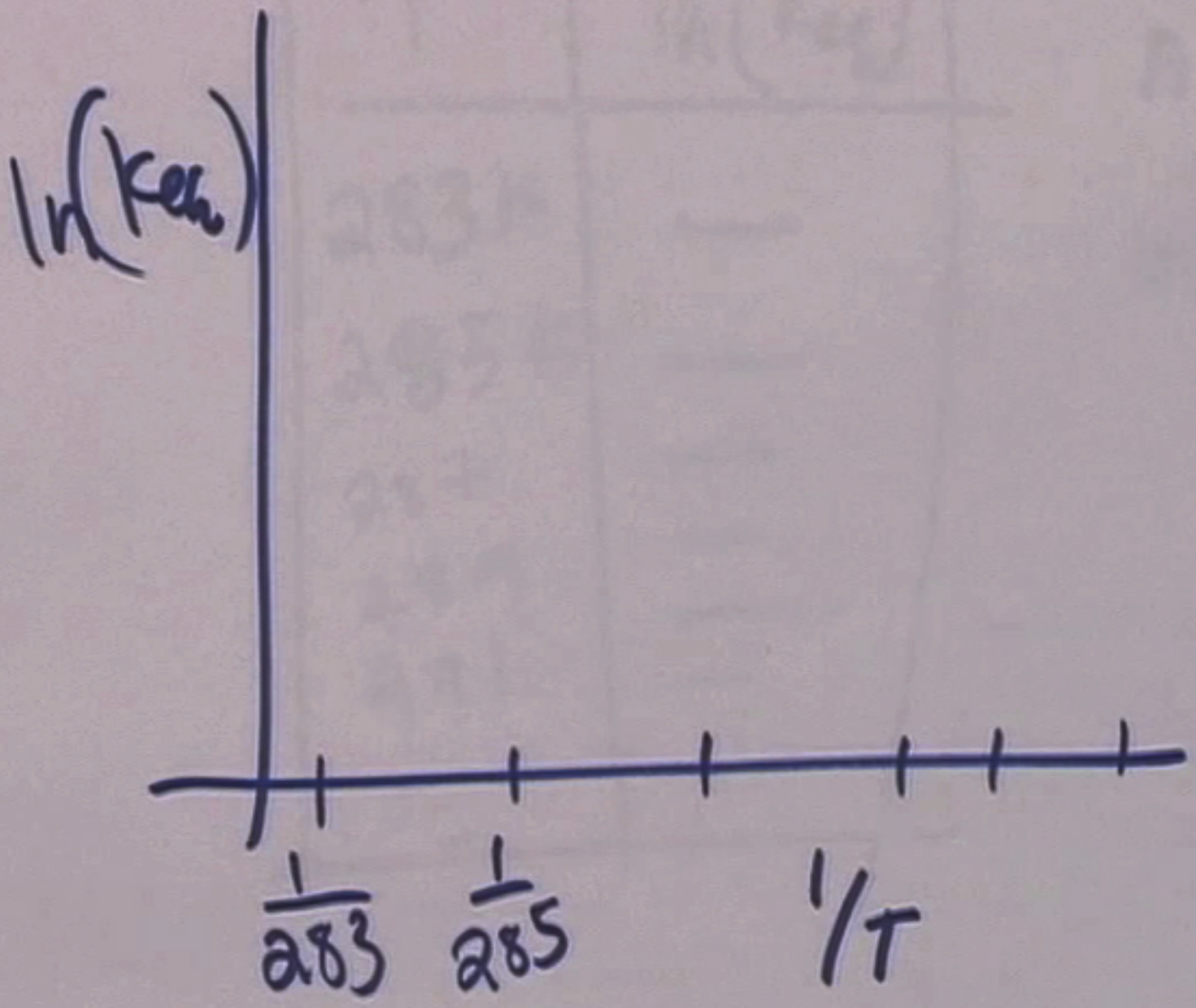
T	$\ln(K_{eq})$
283K	—
285K	—
287	—
289	—
291	—
=	—

1

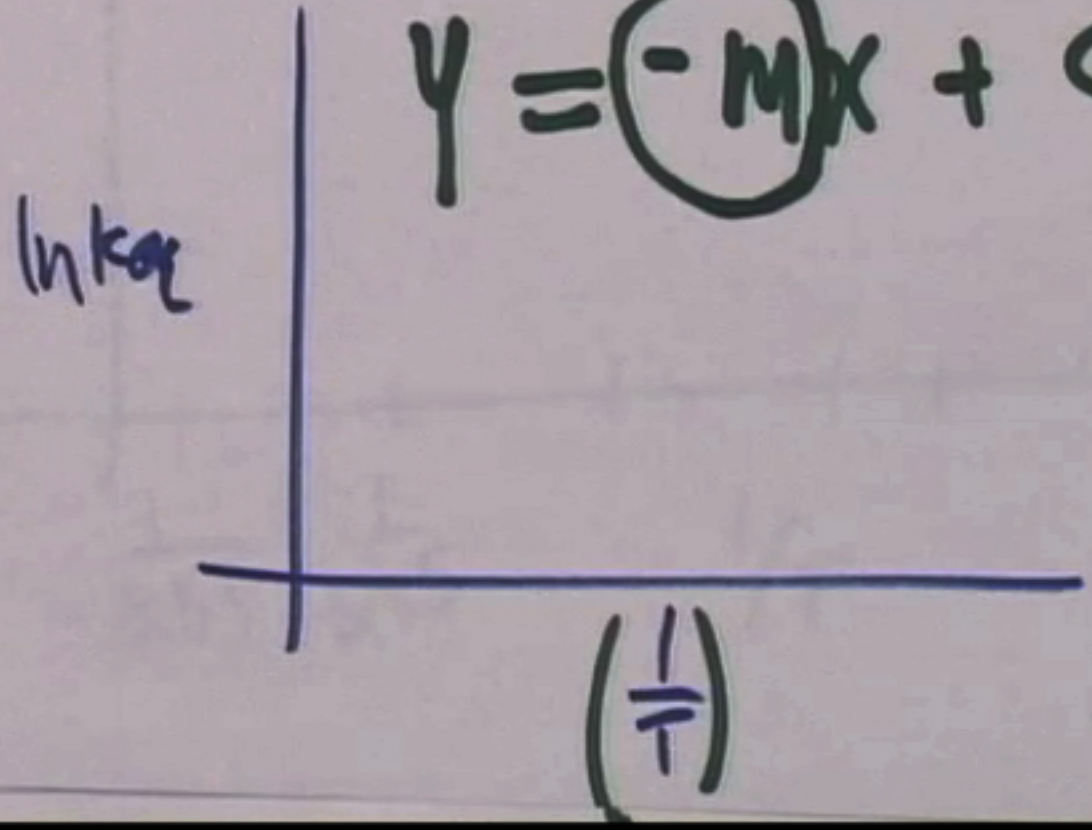
$A \rightleftharpoons B$

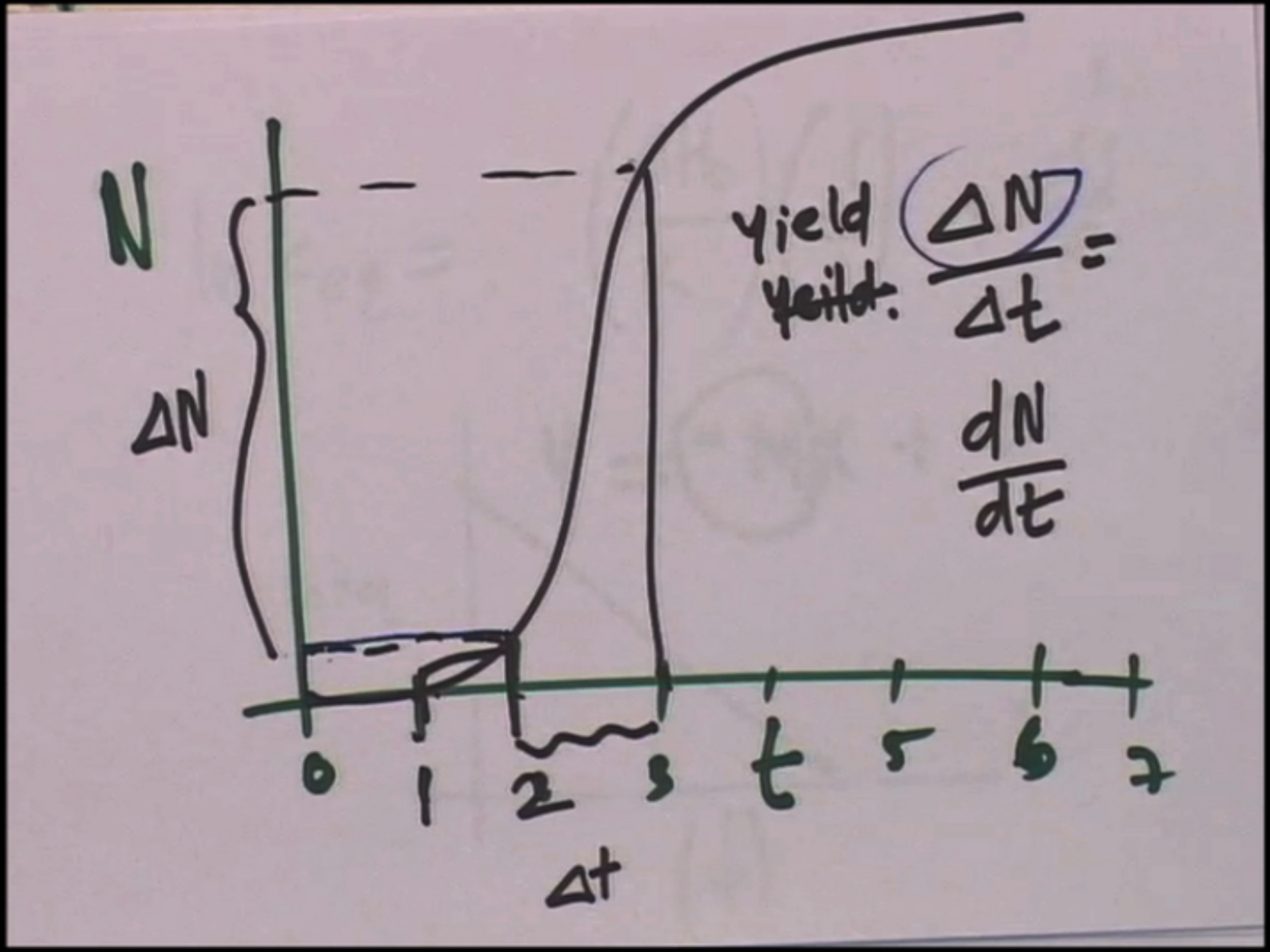
$\ln\left(\frac{[B]}{[A]}\right)$


ln(kobs)
1/283
1/285
1/T

$$\ln K_{eq} = -\left(\frac{\Delta H_0}{R}\right)\left(\frac{1}{T}\right) + \frac{\Delta S^3}{R}$$

$$y = -mx + c$$

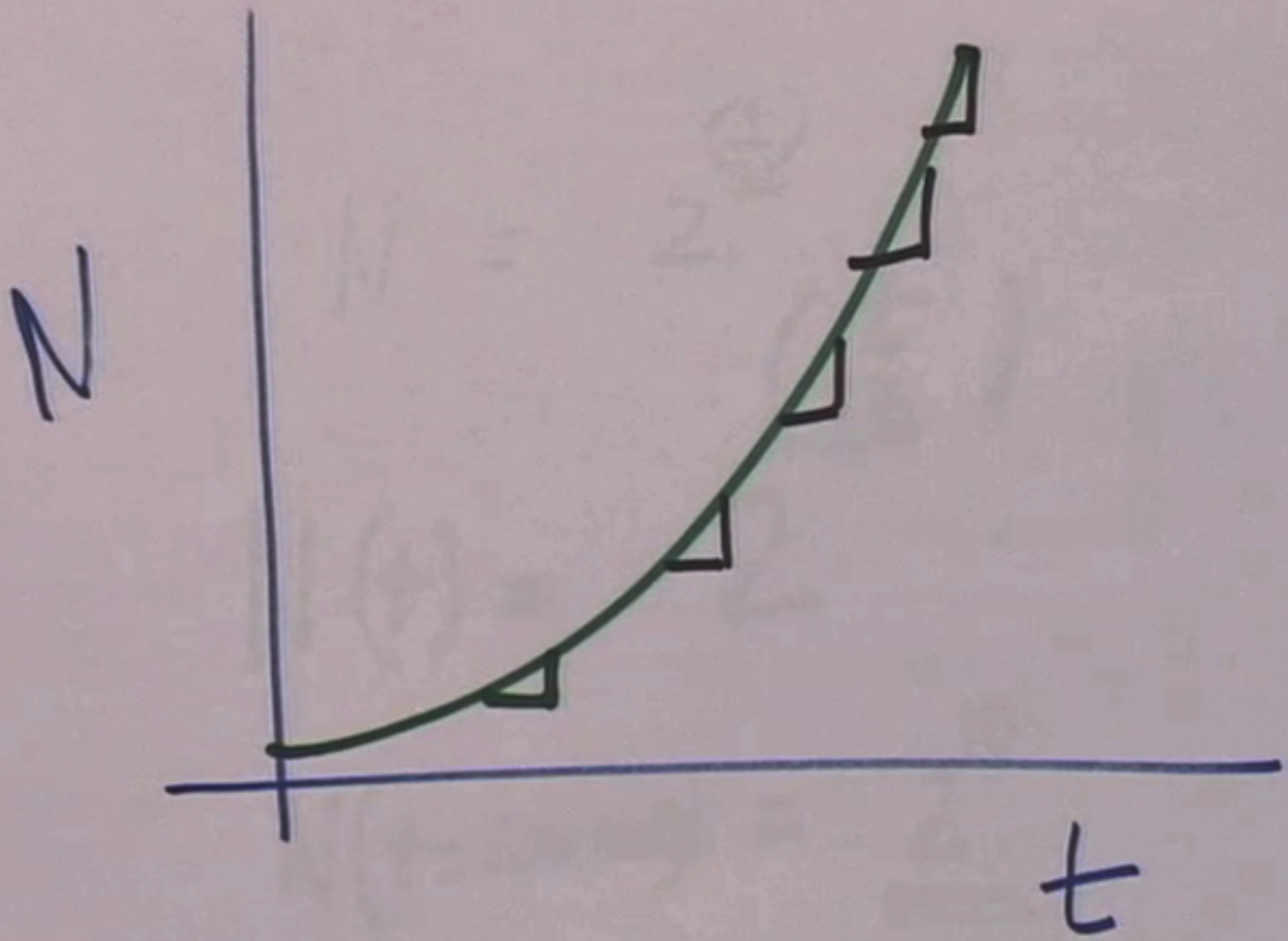



N
ΔN
yield
yeild.
ΔN/Δt =
dN/dt
0
1
2
3
t
5
6
7
Δt

$$N = 2^{\left(\frac{t}{20}\right)}$$

$$N(t) = 2$$

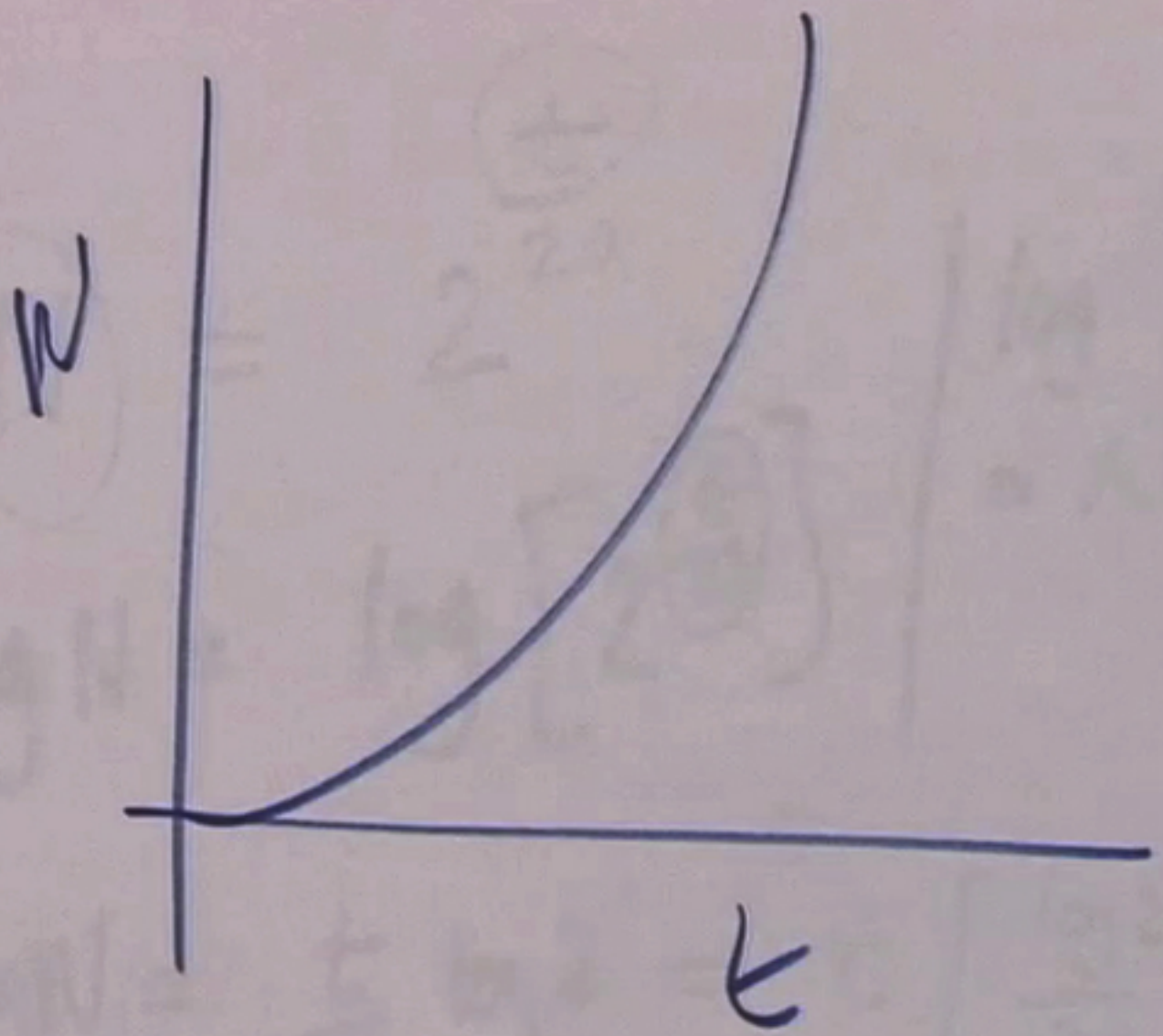
$$N(t = 200 \text{ min}) = \underline{\underline{2^{10}}}$$


N
t

$$N = 2^{\frac{t}{20}}$$

$$\log N = \log\left[2^{\frac{t}{20}}\right] \quad \Big| \quad \log a^x = x \log a$$

$$\log N = \frac{t}{20}\log 2 = t\left[\frac{\log 2}{20}\right]$$


N
t

$$\log N = t\left[\frac{\log 2}{20}\right]$$

$$y = xm$$

k = rate of growth

$$N = 2^{kt}$$

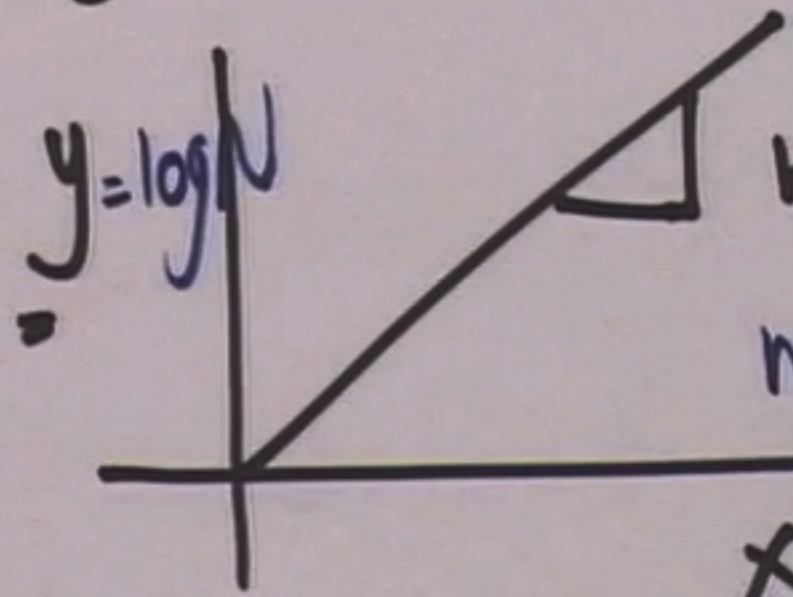
$$\log N = \log\left[2^{kt}\right]$$

$$\log N = kt \log 2$$

$$\frac{\log N}{k \log 2} = t$$

$$\log N = t \underbrace{k \log 2}$$

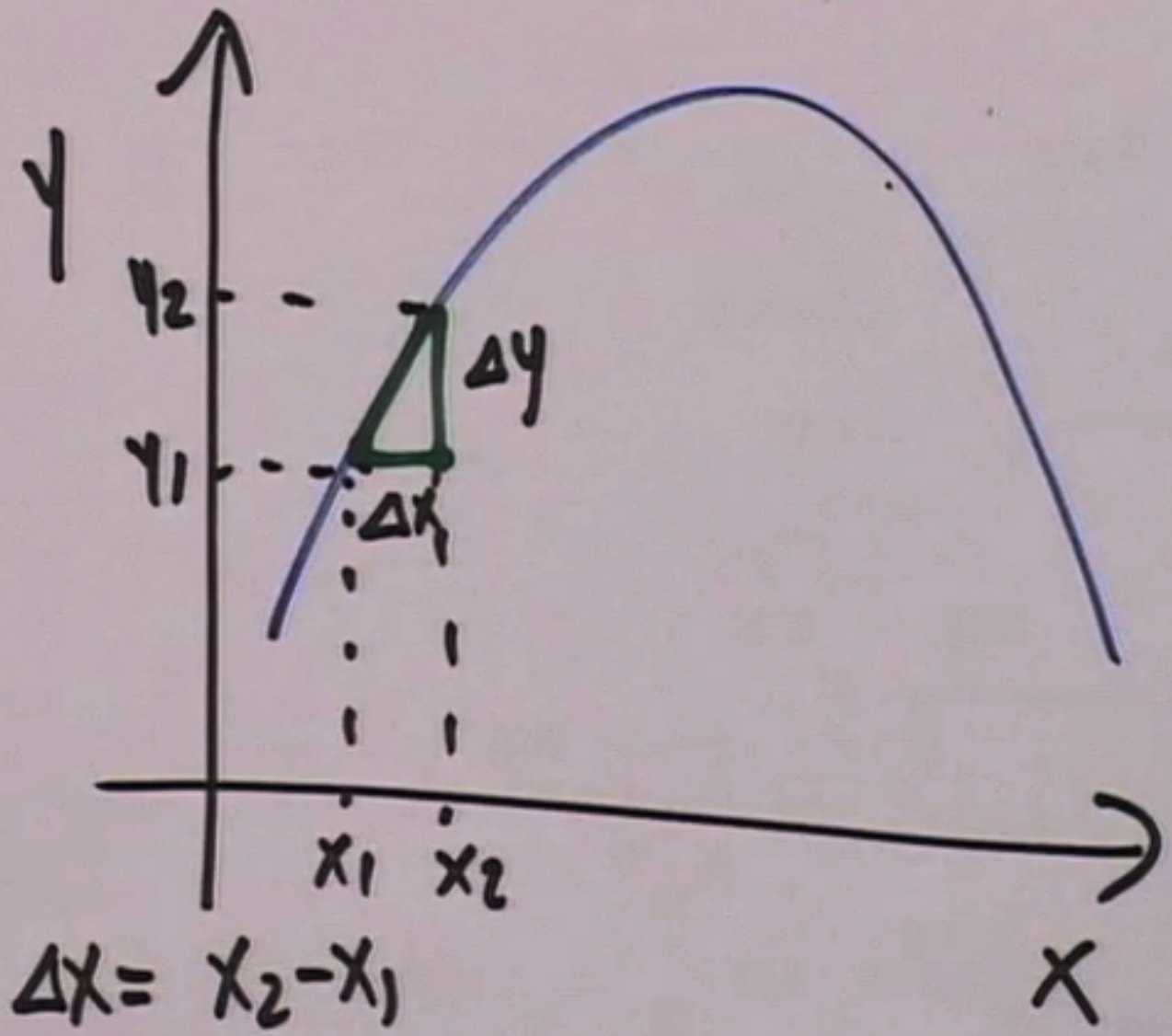
$$y = x\, m$$



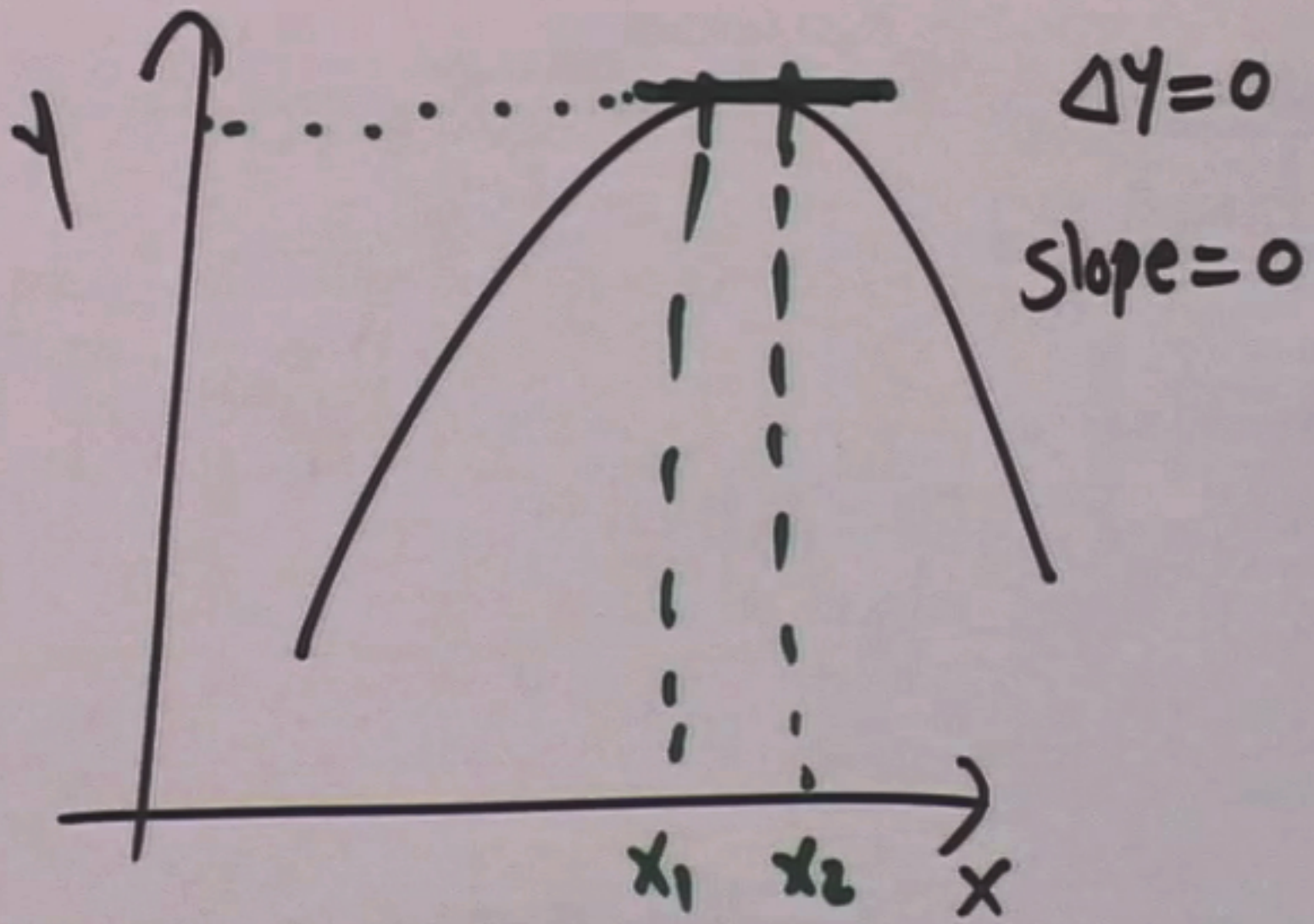
$m = k \log 2$

$m = \frac{\log 2}{20}$

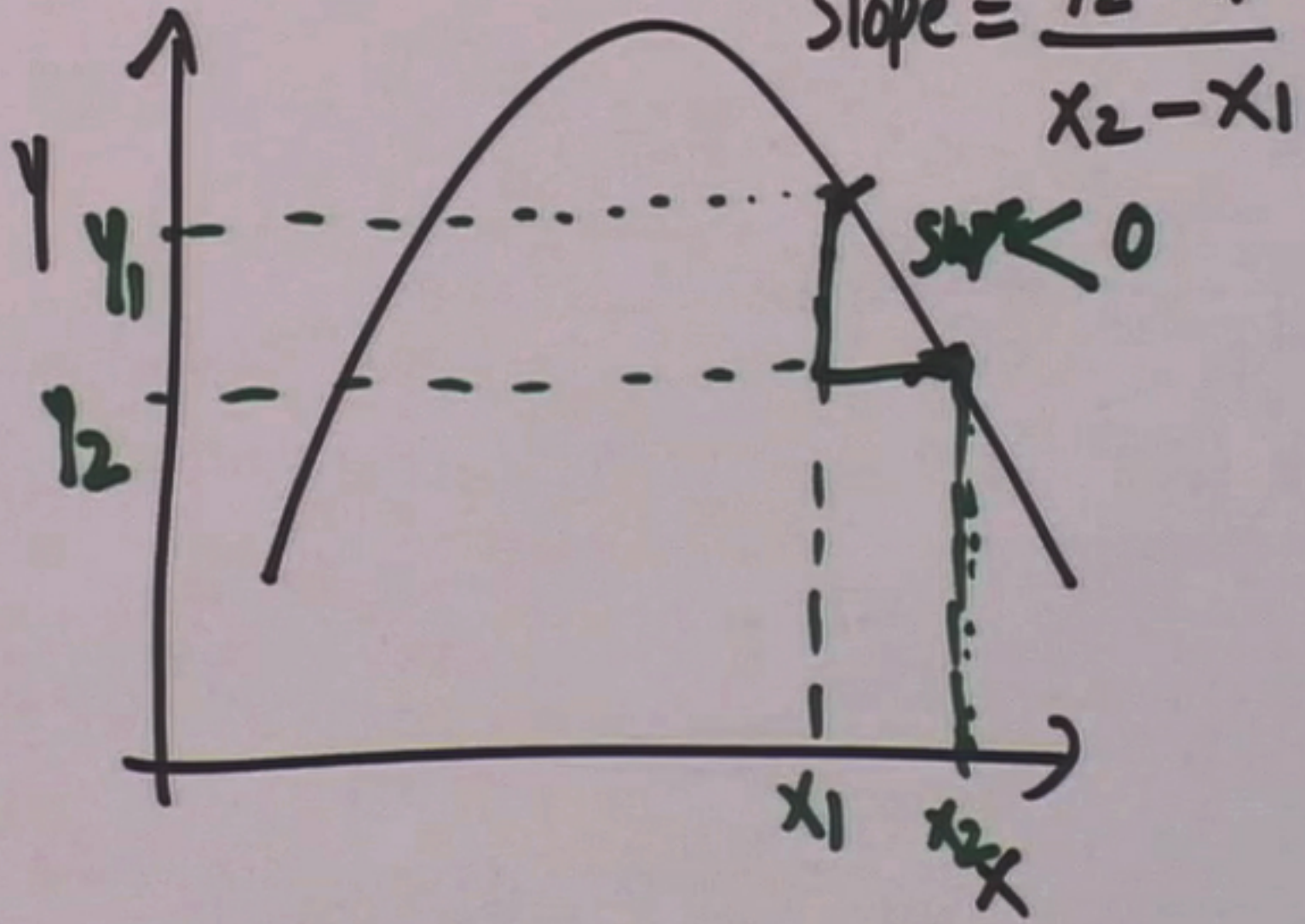
$\Rightarrow k = \frac{1}{20}$

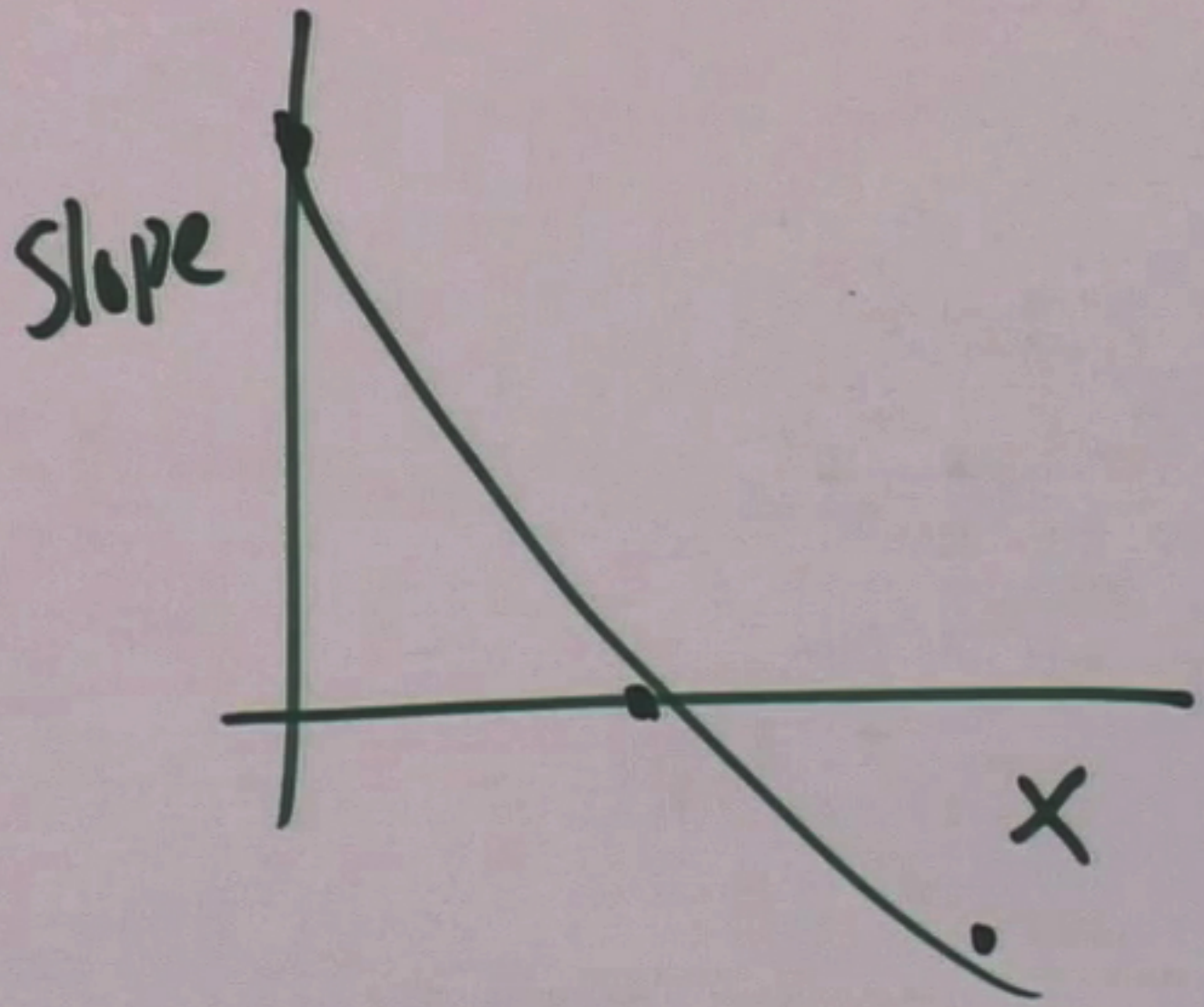

y
y2
y1
Δy
Δx
x1
x2
x
Δx = x2 - x1

① $\text{slope} = \dfrac{y_2 - y_1}{x_2 - x_1} > 0$


y
$\Delta y = 0$
Slope = 0
x_1
x_2
x

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1}$$




Slope
X