

May 12
 13
 14
 15
 16
 19
 20 → honors assembly
 21
 22
 23
 27 - LAST DAY of class
 28
 29

$$\frac{dy}{dx} = (3 - y)\cos x$$

$$\int \frac{dy}{3-y} = \int \cos x \, dx$$

$$-\ln|3-y| = \sin x + C$$

$$\ln|3-y| = -\sin x - C$$

$$f(0) = 1$$

$$\ln|2| = -C$$

$$C = -\ln 2$$

$$\ln|3-y| = -\sin x + \ln 2$$

$$e^{(-\sin x + \ln 2)} = 3 - y$$

$$y = 3 - e^{(-\sin x + \ln 2)}$$

$$y = 3 - e^{-\sin x} \cdot e^{\ln 2}$$

$$y = 3 - 2e^{-\sin x}$$

b) $\left. \frac{dy}{dx} \right|_{(0,1)} = (3-1)\cos 0 = 2$

$$y = 2x + 1$$

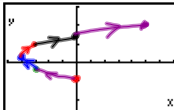
$f(0.2) = 2(0.2) + 1 = 1.4$

↑ slope
tan line
@ (0,1)

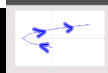
Example 1) Sketch the curve described by the parametric equations:

$$x = t - 4 \quad \text{and} \quad y = \frac{t}{2} \quad -2 \leq t \leq 3$$

t	-2	-1	0	1	2	3
x	-6	-5	-4	-3	-2	-1
y	-1	-0.5	0	0.5	1	1.5



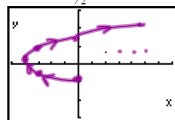
Window	Zoom
Trace=0	Trace=1
Trace=2	Trace=3
Trace=4	Trace=5
Trace=6	Trace=7
Trace=8	Trace=9
Trace=10	Trace=11
Trace=12	Trace=13
Trace=14	Trace=15



Example 2) Sketch the curve described by the parametric equations:

$$x = 4t^2 - 4 \quad \text{and} \quad y = t \quad -1 \leq t \leq \frac{3}{2}$$

t	-1	-0.5	0	0.5	1	1.5
x	-3	-4	-4	-3	-1	1
y	-1	-0.5	0	0.5	1	1.5



Eliminate Parameter

$$x = 4t^2 - 4 \quad y = t$$

$$x = 4y^2 - 4 \rightarrow \text{Rectangular Eqn}$$