

Tuesday, February 14, 2017

* Opener Below

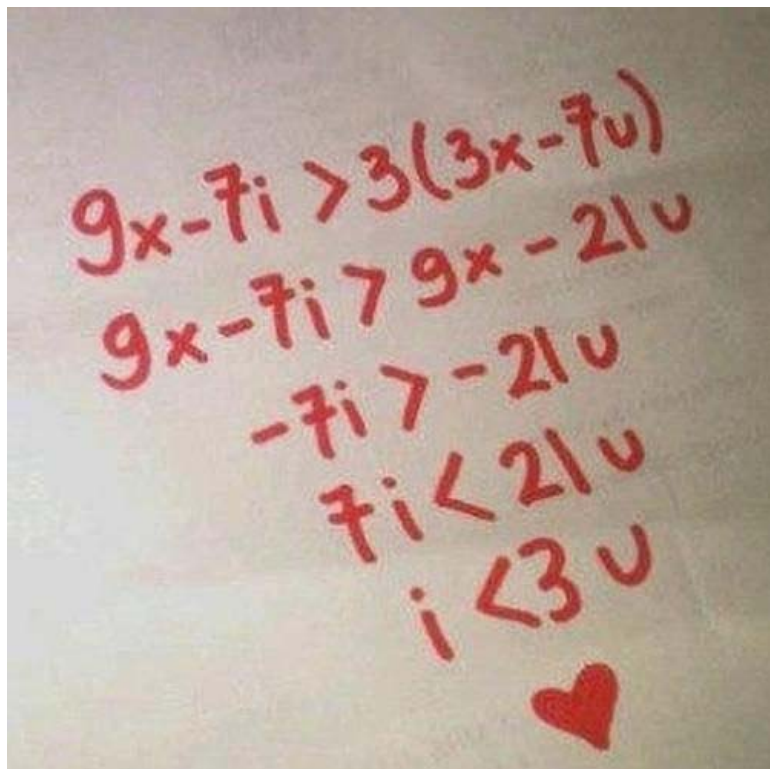
* 7.1 Slope Fields

* 7.2 Quiz Review

* 7.1 Online HW Due 8:00 (Central Time)

Thursday - Don't do it all Wednesday night!!!

* Happy Birthday, Hamzah!!!



Opener

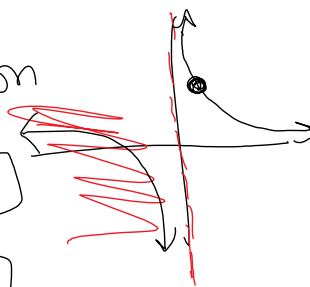
① Find particular solution to

$$\frac{dy}{dx} = -\frac{1}{x^2} - \frac{3}{x^4} + 12$$

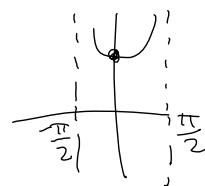
if $y=3$ when $x=1$

② $\frac{dv}{dt} = 4\sec t \tan t + e^t + 6t$ when $v=5$ and $t=0$

① $y = \frac{1}{x} + x^{-3} + 12x - 11$ restriction $(0, \infty)$
 \rightarrow v. A. @ $x=0$ $x > 0$



② $y = 4\sec t + e^t + 3t^2 + 0$
 $-\frac{\pi}{2} < x < \frac{\pi}{2}$



Using Fundamental Theorem to Solve Initial Value Problems

③ $f'(x) = \sin x^2$ $f(1) = 5$ find $f(x)$.

$$\int_1^x \sin t^2 dt = f(x) - f(1)$$

$$f(x) = \int_1^x \sin t^2 dt + f(1)$$

$$f(x) = \int_1^x \sin t^2 dt + 5$$

(4)

$$\frac{dy}{dx} = e^{-x^2} \quad y=3 \text{ when } x=7$$

$$\int_7^x e^{-t^2} dt = y - 3$$

$$y = \int_7^x e^{-t^2} dt + 3$$

$$y = f(x)$$
$$f(7) = 3$$