Name:_____

Calculus Your Try Problems for Chapter 11

11a) Find a function, y(x), that solves the differential equation $\dfrac{dy}{dx}=\dfrac{1}{xy}$.

11b) Construct a slope field (manually, with no help from a computer or calculator) for $\dfrac{dy}{dx}=\dfrac{-x}{y}$.

11c) Use Geogebra to create a slopefield for $\dfrac{dy}{dx}=(\sin x)\,y$

11d) Use Euler's Method to find $f(3)$ given that $f'(x)=\dfrac{f(x)}{x^2}$ and $f(1)=1$.

11e) Find y when $\dfrac{dy}{dx}=\dfrac{xy+x}{\sqrt{x^2+1}}$.

11g) Find y when $\dfrac{dy}{dx}+\dfrac{y}{x}=x^2$.

11h) Find y when $3\dfrac{d^2y}{dx^2}+14\dfrac{dy}{dx}-5y=0$

11i) Find y when $\dfrac{d^2y}{dx^2}-4y=e^{3x}$