Math 274   Quiz 3   Name: _____

29 June 2017   Show Appropriate Work   Scaled to $\boxed{10}$.

We have discussed three types of first order differential equations; separable, linear, and exact. There is exactly one of each below.

1. $\boxed{4}$ Find the explicit general solution of

$$t\frac{dx}{dt} = t^2 - x.$$

2. $\boxed{3}$ Find the explicit general solution of

$$\frac{dy}{dx} = y^2 x.$$

3. $\boxed{3}$ Find the general solution of

$$\frac{dy}{dx} = \frac{y - \sec^2 x}{e^y - x}.$$