

Math 34 Differential Equations Quiz

SHOW ALL WORK

1.) Give an example of a linear differential equation:

$$y' + y = 0 \text{ or } \sin(t)yy' + t^{\frac{1}{2}}y = \ln(t)/e^t \text{ or } \dots$$

2.) Give an example of a non-linear differential equation:

$$y'y = 0 \text{ or } \dots$$

3.) From section 1.4, name one mathematician who studied differential equations OR one application (but not related to gravity) of differential equations.

Newton or mechanics or ...

4.) Circle T for True or F for False:

4a.) Numerical approximations for solutions to differential equations are often needed as the solutions to most differential equations cannot be expressed algebraically.

T

4b.) If a computer is used to find a numerical approximation to a differential equation, then we know the equation has at least one solution.

F