Math 319
Quiz 1
Section 11:00-12:15

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Calculators okay

NAME: _____

Problem	Score
1	
2	
3	
4 5	
Total	

SHOW YOUR WORK!

1. Solve the initial value problem

$$\frac{dy}{dt} = (\sin t)y + e^{-\cos t}, \quad y(0) = 1.$$

ANS.

2. Solve the initial value problem

$$y'' + 2y' + y = \frac{e^{-t}}{(t+1)^2} + \cos t, \;\; y(0) = 0, \; y'(0) = 0.$$

ANS.

3. Use Euler's method to give the approximate solution at $t = .4$ for the initial value problem

$$\frac{dy}{dt} = \sqrt{y+t}, \quad y(.2) = 0.$$

Use step size $h = .1$. Give your answer to four decimal places

ANS.

4. Solve the initial value problem

$$\frac{dy}{dt} = \frac{t+1}{3(y+2)}, \quad y(0) = -4$$

for $t > 0$.

ANS.

5. Find the general solution for

$$\frac{d^4y}{dt^4} + 81y = 0.$$

Express your answer in terms of real valued functions.

ANS.