

Sp2016 Practice Exam 2:

Name _____

Show matrices etc. you enter in calculators and explain what you did.

No imaginary numbers in final answers.

Read the instructions. I am frequently trying to save you time.

Use the back of a page to show more work if you need to.

4 questions - 25 points each.

1. Solve $\frac{dP}{dt} = P - P^2$ $P(0)=2$

2. Solve $\frac{dy}{dx} = x\sqrt{1-y^2}$

$y(1)=1/2$

Q1	Q2	Q3	Q4	Total

3. Solve $\frac{dT}{dt} = k(T - T_m)$ $T(0) = T_0$

Score / 25

4. Solve $(x + 1)y' + y = \ln(x)$ $y(1) = 10$

Score / 25

5. Solve $y' - \sin(x)y = 2 \sin(x)$ $y(\pi/2) = 1$

Score / 25

6. Solve

$$\left(\frac{1}{4+y^2} + \cos(x) - 2xy\right) \frac{dy}{dx} = y(y + \sin(x)) \quad y(0) = 1$$

Score / 25

7. Solve

$$(2y \sin(x) \cos(x) - y + 2y^2 e^{xy^2}) dx = (x - \sin(x)^2 - 4xy e^{xy^2}) dy$$

Score / 25

