

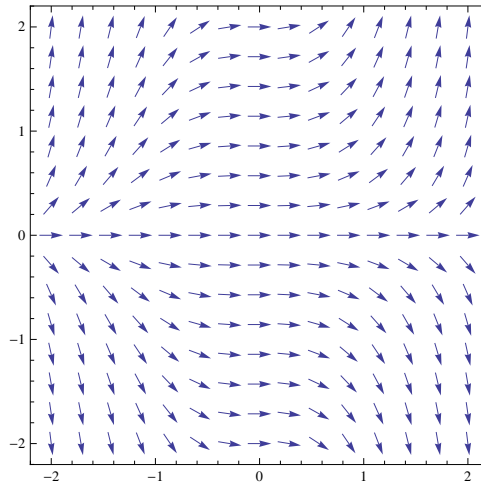
Quiz 8

Name: _____

Directions: Answer each question to the best of your ability. You may use a calculator, but you must show all work to receive full credit.

1. State the order of the following differential equation: $(y'')^3 - (y')^2 + y^5 = 0$ (3 pts)
2. For what value of k , if any, is the equation $y = e^{kt}$ a solution to the differential equation, $y''' - 27y = 0$ for any value of t . (4 pts)

3. Which of the following differential equations will produce the given slope field? (3 pts)



- (a) $y' = xy$
- (b) $y' = x^2y$
- (c) $y' = xy^2$
- (d) $y' = x^2y^2$
- (e) None of the above

4. Using Euler's method, approximate $y(4)$ using 2 steps given the differential equation $y' = y$ and the initial condition that $y(0) = 2$. (5 pts)

5. What is the actual value of $y(4)$ from the previous problem? (5 pts)

6. Find the solution to the differential equation, $y' = y + 1$ containing the point $(0,0)$. (5 pts)