

CPS 5310 Spring 2015
Shirley Moore, Instructor
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Quiz 3

Name _____

1. What is the general form of a first-order ODE?

2. What is the general form of a system of first-order ODEs? In a system of first-order ODEs with n equations, how many initial conditions are needed to find a unique solution?

3. Does a boundary value problem necessarily have a unique solution? Please justify your answer.

4. What does the Fundamental Theorem of Calculus tell us about the solution of an ODE of the form $T'(x) = f(x)$? (Book software: ODEEx1.mac, ODEEx2.mac, ODEEx3.mac, ODEEx4.mac, ODEEx5.mac)

5. What method can be used to solve an ODE of the form $y' = f(x) \cdot g(y)$? (ODEEx7.mac, ODEEx8.mac, ODEEx10.mac)