

### Quiz 9 - Topics

1. Check whether or not a function satisfies a differential equation (like 7.1 # 1, 3a, 5).
2. Use separation of variables to find the general solution of a differential equation, or a particular solution given initial conditions (like 7.3 # 1, 2, 3, 9, 10)
3. Solve an exponential growth/decay problem (like 7.4 # 3, 7, 17)
4. Solve a differential equation in an application problem; determine the limit of the solution as  $t \rightarrow \infty$  (like 7.3 # 29, 31a, 33).
5. Set up the differential equation for a mixing problem (like 7.3 # 35, 37).