

Name:

ID #:

Section #:

Q1) Find a linear differential operator that annihilates $e^{-x} \sin x - e^{2x} \cos x$. **(2 points)**

Q2) Find linearly independent functions that are annihilated by the differential operator $D^2(D - 5)(D - 7)$. **(2 points)**

Q3) Solve $2x^2y'' + 5xy' + y = x^2 - x$. **(6 points)**