

9.19

1 9.19, §1 Asked

Solve:

$$y'' - 2y' + y = 0$$

2 9.19, §2 Solution

$$y'' - 2y' + y = 0$$

Characteristic polynomial:

$$\lambda^2 - 2\lambda + 1 = 0$$

has roots $\lambda_1 = \lambda_2 = 1$.

For multiple roots, start adding factors that are increasing powers of x : General solution:

$$y = C_1 e^x + C_2 x e^x$$

