

M351 AHw§3.3 (S. Zhang) .

1. (3.3:a1) Find the roots of characteristic equation and the general solution:

$$(1) 9y'' + 9y' - 4y = 0$$

$$(2) (D - 1)(D - 2)(D + 3)y = 0$$

2. (3.3:a2) Find the roots of characteristic equation and the general solution:

$$(1) y'' + 9y = 0$$

$$(2) y'' + y' + 1.25y = 0$$

$$(3) ((D - 2)^2 + 9)y = 0$$

3. (3.3:a3) Find the roots of characteristic equation and the general solution:

$$(1) y'' + 6y' + 9y = 0$$

$$(2) (D - \frac{\pi}{2})^3 y = 0$$

4. (3.3:a4) Find the roots of characteristic equation and the general solution:

$$(1) (D - 2)^2(D^2 + 2)y = 0$$

$$(2) (D - 2)^3(D^2 - 4)((D - 2)^2 + 4)^2 y = 0$$