

1. [5pts] Classify as regular or irregular each singular point of the DE

$$x^3(x-1)^2(x^2-4)y'' + 4x(x-1)y' - (x+2)y = 0$$

2. [5pts] Find the indicial equation and the indicial roots of the DE

$$2xy'' - (3+2x)y' + y = 0$$

($x = 0$ is a regular singular point for this DE)