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

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

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

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

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