

$$\begin{array}{l} t^2 - 1 \\ \hline f_0: t^2 - 1 \\ f_1: 2t \\ f_2: 2 \end{array}$$

(because $tf_1 - 2 = 2f_0$)

$$\begin{array}{l} \therefore + \\ - \\ + \\ \hline V(-2) = 2 \end{array}$$

$$\begin{array}{l} 2: + \\ + \\ + \\ \hline V(2) = 0 \end{array}$$

\therefore 2 distinct roots

$$t^3 - t$$

$$\begin{array}{l} f_0: t^3 - t \\ f_1: 3t^2 - 1 \\ f_2: 2t \\ f_3: 2 \end{array}$$

(because $tf_1 - 2t = 3f_0$)

(because $3tf_2 - 2 = 2f_1$)

$$\begin{array}{l} \therefore - \\ + \\ - \\ + \\ \hline V(-2) = 3 \end{array}$$

$$\begin{array}{l} 2: + \\ + \\ + \\ + \\ \hline V(2) = 0 \end{array}$$

\therefore 3 distinct roots

$$t^4 - t^2$$

$$\begin{array}{l} f_0: t^4 - t^2 \\ f_1: 4t^3 - 2t \\ f_2: 2t^2 \\ f_3: 2t \\ f_4: 0 \end{array}$$

(because $tf_1 - 2t^2 = 4f_0$)

($2tf_2 - 2t = f_1$)

($tf_3 = f_2$)

$$\begin{array}{l} 2: - \\ + \\ - \\ + \\ \hline V(-2) = 3 \end{array}$$

$$\begin{array}{l} 2: + \\ + \\ + \\ + \\ \hline V(2) = 0 \end{array}$$

\therefore 3 distinct roots.