

STATION IV

Factor
(GCF out 1st)

① $x^3 + x^2 - 6x = 0$

$$x(x^2 + x - 6) = 0$$

$$\downarrow \begin{array}{r} -6 \\ 3 \times -2 \\ \hline 1 \end{array}$$

$$x(x+3)(x-2) = 0$$

$x = 0$	$x + 3 = 0$	$x - 2 = 0$
	$x = -3$	$x = 2$

② $2x^4 + 8x^3 - 24x^2 = 0$

$$2x^2(x^2 + 4x - 12) = 0$$

$$\downarrow \begin{array}{r} -12 \\ 6 \times -2 \\ \hline 4 \end{array}$$

$$2x^2(x+6)(x-2) = 0$$

$$2x^2 = 0 \quad x + 6 = 0 \quad x - 2 = 0$$

$$x^2 = 0$$

$$\sqrt{} \sqrt{}$$

$$x = 0$$

$$x = -6$$

$$x = 2$$

multiplicity
of 2

(accounts for 2 of the 4 answers)