



$$a) x^2 - 11x + 12 = 0 \rightarrow (x-4)(x-3) = 0 \rightarrow \begin{cases} x=4 \\ x=3 \end{cases}$$

$$b) x^2 + 13x - 12 = 0 \rightarrow (x+12)(x-1) = 0 \rightarrow \begin{cases} x=-12 \\ x=1 \end{cases}$$

$$الف) 5x^2 - 12x + 7 = 0 \rightarrow x^2 - 12x + 14 = 0 \rightarrow (x-5)(x-7) = 0 \rightarrow \begin{cases} x = \frac{5}{5} = 1 \\ x = \frac{7}{5} = 1.4 \end{cases}$$

$$ب) 3x^2 - 10x + 12 = 0 \rightarrow x^2 - 10x + 4 = 0 \rightarrow (x-3)(x-7) = 0 \rightarrow \begin{cases} x = \frac{3}{3} = 1 \\ x = \frac{7}{3} = 2.33 \end{cases}$$

$$الف) 2x^2 - 5x + 3 = 0 \rightarrow \frac{a+c+b=0}{x=1} \Rightarrow x = \frac{c}{a} = \frac{3}{2} = 1.5$$

$$ب) 2x^2 + 5x + 3 = 0 \rightarrow \frac{a+c=b}{x=-1} \Rightarrow x = -\frac{c}{a} = -\frac{3}{2} = -1.5$$

$$ج) 2x^2 - 5x + 1 = 0 \rightarrow \Delta = 25 - 4(2)(1) = 17 \rightarrow x = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{5 \pm \sqrt{17}}{4} \rightarrow \begin{cases} \frac{5 + \sqrt{17}}{4} \\ \frac{5 - \sqrt{17}}{4} \end{cases}$$

$$د) 4x^2 + 7x + 9 = 0 \rightarrow \Delta = 49 - 4(4)(9) = -95 \rightarrow \text{ليس له حلا حقيقيين}$$

$$x^2 - 3x - 2 = 0 \rightarrow \Delta = 9 - 4(1)(-2) = 17 \rightarrow \text{ليس له حلا حقيقيين}$$

$$S = -\frac{b}{a} \quad P = \frac{c}{a} \rightarrow S = \frac{3}{1} = 3 \quad P = \frac{-2}{1} = -2$$

$$الف) S^2 - 2P = 9 + 4 = 13$$

$$ب) S^2 - 3SP = 2V - 3(-1)(-2) = 4 \neq 0$$

$$الف) \binom{V}{5} + \binom{9}{1} \rightarrow \frac{5!}{0! \times 5!} = \frac{5 \times 4!}{5 \times 1} = 1 \neq \frac{9!}{1! \times 8!} = \frac{9 \times 8!}{1 \times 8!} = 9 \rightarrow \text{الف) } 21 + 34 = 55$$

$$ب) \binom{9}{3} - \binom{11}{1} = 84 - 11 = 73$$

$$\frac{V \times 11 \times 9}{3! \times 4!} = \frac{V \times 11 \times 9}{1 \times 2 \times 3 \times 4} = 11 \times 9 / (2 \times 4) = \frac{V \times 11 \times 9}{8} = \frac{V \times 11 \times 9}{8} = 11 \times 9 / 8 = 12.375$$