

$$F- x^2 + 6x + a = 0 \Rightarrow \alpha + \beta = -6, \alpha\beta = a$$

$$3\alpha^2 + 2\beta^2 = 12\sqrt{2} + 85$$

$$\downarrow \quad S = -6 \quad \alpha\beta = a \quad \alpha, \beta = \frac{-6 \pm \sqrt{36 - 4a}}{2} \rightarrow \alpha < \beta \rightarrow \alpha = -3 - \sqrt{9 - a}$$

$$\alpha = 25 \quad r\alpha^r + r\beta^r = \alpha^r + r(S - r\beta) = 12\sqrt{2} + 85 \rightarrow a = 1$$

$$5- x^4 - 7x^2 - 5 = 0 \quad z^r = y^r - 5 = 0 \rightarrow t = \frac{\sqrt{5} \pm \sqrt{49}}{2}$$

$$x^2 = y \rightarrow y^2 - 7y - 5 = 0 \quad a = \frac{\sqrt{49} \pm \sqrt{49}}{2} \rightarrow \begin{cases} a_1 = \frac{\sqrt{49} + \sqrt{49}}{2} \\ a_2 = -\frac{\sqrt{49} - \sqrt{49}}{2} \end{cases} \rightarrow S = 0, P = \left(-\frac{\sqrt{49}}{2}\right)$$

$$S = 0, P = -5 \quad rP^r - rSp + rS = 29 + \sqrt{49}$$

$$2P^2 - 3Sp + 2S = 2(25) = 50$$

$$6- 2x^2 - ax + b = 0$$

$$a = 9$$

$$3ax^2 + ax - 9 = 0$$

$$b = 1$$

$$\left[\frac{ab}{r}\right] = \left[\frac{24}{4}\right] = 6 \quad r\alpha^r - a\alpha + b = 0 \quad \begin{cases} S = \frac{a}{r} \\ P = \frac{b}{r} \end{cases}$$

$$r\alpha m^r + a\alpha - 4 \quad \begin{cases} S = \frac{1}{r} \rightarrow \alpha + \beta = \frac{1}{r} = \frac{a}{r} \rightarrow \alpha = 1 \\ P = -1 \rightarrow b = -4 \end{cases}$$

$$\left[\frac{ab}{r}\right] = -1$$

$$7- ax^2 - ax - b = 0$$

$$4\beta^2 + 2\alpha^2 - 2\beta = 17$$

$$\alpha - \beta = 3$$

$$\alpha = 1 - \beta$$

$$r\beta^r + r(1 - \beta)^r - r\beta = 1 \Rightarrow r\beta(\beta - 1) = -1 \rightarrow \alpha\beta = \frac{1}{r} = \frac{-b}{a} \quad (V)$$

$$\rightarrow a = -r \cdot b$$

$$a\alpha^r - a\alpha - b = 0 \rightarrow -r \cdot b\alpha^r + r \cdot b\alpha - b = 0 \quad |\alpha - \beta| = \frac{\sqrt{\Delta}}{|a|} = \frac{r}{|b|}$$

2, 5

نظام معادلات

$$1- \begin{cases} x + 3x = \frac{a}{3} \\ x \cdot 3x = \frac{4}{3} \end{cases}$$

2

$$3x^2 = \frac{4}{3} \rightarrow x^2 = \frac{4}{9} \rightarrow x = \pm \frac{2}{3}$$

$$\rightarrow x + 3x = 4x = \pm \frac{8}{3} \rightarrow \frac{a}{3} = \pm \frac{8}{3} \rightarrow a = \pm 8$$

$$8 - (-8) = 16 \quad \text{في 0.5 من 16}$$

$$2- 36x^2 - (m+14)x + 1 = 0$$

0, 5

5 = مجموع الجذور

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha\beta} = 5 \quad \frac{\alpha + \beta + \sqrt{\alpha\beta}}{\alpha\beta} = 5 \rightarrow \frac{m+14}{36} + \sqrt{\frac{1}{36}} = 5 \rightarrow m+14+1=18 \rightarrow m=-1$$

$$\alpha + \beta = \frac{m+14}{36}, \quad \alpha\beta = \frac{1}{36} \rightarrow -\alpha + \beta + 1 = \frac{c}{a} = -1$$

$$\frac{m+14}{36} + \frac{1}{36} = m+14 = 5 \rightarrow m = -9$$

عدد من 0.5

$$\frac{2}{-9} = -\frac{2}{9}$$

$$3- 1 + \frac{1}{2} = \frac{3}{2} = -\frac{k}{4} \rightarrow k = -6$$

$$\beta = 1 - \alpha$$

$$\alpha(1-\alpha) = -1 \rightarrow \alpha = -1, 1$$

$$\alpha = 1 \rightarrow k = -1$$

$$\alpha = -1 \rightarrow k = -1$$