

$$\frac{-b}{2a} = 2 \Rightarrow (a-1)x^2 + x + 2 = 0$$

$$\frac{-1}{2(a-1)} = 2 \Rightarrow -1 = 4a - 4 \Rightarrow a = \frac{3}{4} \Rightarrow -\frac{1}{2}x^2 + x + 2 = 0$$

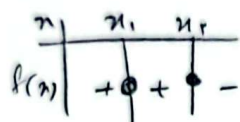
$$\Delta = 1 - 4 \times -\frac{1}{2} \times 2 = 5$$

$$\frac{-1 \pm \sqrt{5}}{2 \times -\frac{1}{2}} = \begin{cases} + & x = 2 \text{ و } 3 \\ - & x = 4 \text{ و } 5 \end{cases}$$

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$$f(x) = mx^2 - 2x + m$$

① $x < 0 \rightarrow$ چون بین دو نقطه
دو نقطه داریم



$$\textcircled{2} \Delta > 0 \rightarrow +2d - 4m^2 > 0 \rightarrow -\frac{d}{4} < m < \frac{d}{4}$$

$$\textcircled{1} \cap \textcircled{2} = -\frac{d}{4} < m < \frac{d}{4}$$

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$$y = ax^2 + bx + c \rightarrow a(x^2 - 5x + 6) = 0$$

$$s = \frac{5 - \sqrt{1}}{2} + \frac{5 + \sqrt{1}}{2} = \frac{10}{2} = 5$$

$$p = \frac{5 - \sqrt{1}}{2} \times \frac{5 + \sqrt{1}}{2} = \frac{25 - 1}{4} = \frac{24}{4} = 6$$

$$\Rightarrow x^2 - 5x + 6 = 0 \Rightarrow x^2 - 11x + 6 = 0$$

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$$x^2 - 2x + m + 2 = 0 \quad \alpha < \beta \quad 2\alpha^2 + \beta^2 = 12$$

$$p = \alpha\beta = \frac{m+2}{1}$$

$$s = \alpha + \beta = \frac{2}{1} = 2 \Rightarrow \beta = 2 - \alpha \Rightarrow \beta^2 = (2 - \alpha)^2$$

$$\rightarrow \alpha + \beta = 2 \Rightarrow \beta = 2$$

$$\rightarrow \frac{m+2}{1} = \alpha\beta \rightarrow m+2 = 4 \rightarrow m = 2$$

$$2\alpha^2 + (2 - \alpha)^2 = 2\alpha^2 + 4 - 4\alpha + \alpha^2 = 12$$

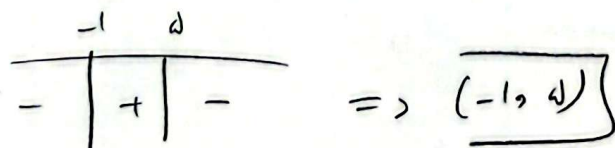
$$\rightarrow 3\alpha^2 - 4\alpha + 4 = 12 \rightarrow 3\alpha^2 - 4\alpha - 8 = 0$$

$$\rightarrow (3\alpha - 8)(\alpha + 1) = 0 \Rightarrow \alpha = 1$$

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$$s \begin{Bmatrix} 1 \\ 2 \end{Bmatrix} C = 0 \quad y = a^2(x-h)^2 + k \rightarrow y = a(x-2)^2 + 1 \rightarrow -x^2 + 4x + 1$$

$$\hookrightarrow \begin{vmatrix} 1 & 0 \\ 0 & -1 \end{vmatrix} \rightarrow \Delta = a(-2)^2 + 1 \Rightarrow 4a = -1 \Rightarrow a = -\frac{1}{4}$$



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$$a x^r - v x + 9 \beta = 0$$

$$\rho = \alpha \beta = \frac{9 \beta}{\alpha} \rightarrow a = \frac{9}{\alpha} \rightarrow x - \frac{9}{\alpha} = 0 \rightarrow \frac{x^r - 9}{\alpha} = 0 \rightarrow \alpha = \pm 3$$

$$\rightarrow a = +3 \rightarrow 3 + \beta = \frac{v}{r} \Rightarrow \beta = -\frac{v}{r} \alpha$$

$$\rightarrow a = -3 \rightarrow -3 + \beta = -\frac{v}{r} \rightarrow \beta = \frac{v}{r} \checkmark$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = 2 \frac{1}{-3} + \frac{1}{\frac{v}{r}} = -\frac{1}{3} + \frac{r}{v} = \frac{v}{y}$$

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$$x^r + m x - r m = 0, \quad a^r = m \beta = \lambda$$

$$\beta^r - r m = -m \beta \rightarrow a^r + \beta^r - r m = \lambda \rightarrow m^r + r m - r m = \lambda \rightarrow m^r + r m - \lambda = 0 \rightarrow (m+r)(m-r) = 0$$

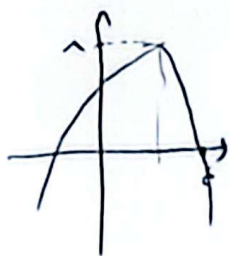
$$a^r + \beta^r = r - r \rho = m^r + r m$$

$$s = -m$$

$$\rho = -r m$$

$$s = \frac{1}{2} \left(\frac{r}{m} - r \right)$$

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$$f(x) = m x^r + r x + \frac{m}{r} + v \rightarrow -r a^r + r x + r = 0 \rightarrow x^r - r x - r = 0 \rightarrow \frac{1}{r}$$

$$\frac{+14 - r m \left(\frac{m}{r} + v \right)}{r m} = -1 \rightarrow 14 - r m^r + r \lambda m = -r r m$$

$$r m^r - r m = 14 = 0$$

$$m^r - r m - \lambda = 0$$

$$(m-r)(m+r) = 0 \rightarrow -r \checkmark$$

$$\Delta > 0 \rightarrow 14 - r m^r - r \lambda m \rightarrow m = r \rightarrow \Delta < 0$$

$$-r \rightarrow \Delta > 0$$

$$\boxed{r = r}$$

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$$s = a(m-r)^r + \frac{1}{r} \rightarrow f = a(\epsilon) + r \Rightarrow a = \frac{1}{r} \rightarrow y = \frac{1}{r} (x^r - r x + \epsilon) + r$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha \beta} = \frac{1}{r}$$

$$\hookrightarrow a \in \mathbb{R}_2 - \mathbb{R}$$

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$$x^r - (\epsilon a + \epsilon) x + (r a^r + r a + r) = 0$$

$$x = r \rightarrow \epsilon - \lambda a - \lambda + r a^r + r a + r = 0 \rightarrow r a^r - r a - 1 = 0 \rightarrow \frac{1}{r}$$

$$\Delta > 0 \rightarrow (\epsilon a + \epsilon)^r - \epsilon (r a^r + r a + r) > 0 \rightarrow a = 1 \rightarrow \Delta < 0$$

$$\Rightarrow a = 1 \rightarrow x^r - \lambda x + r = 0 \rightarrow \frac{r}{r}$$

$$\rightarrow a = \frac{1}{r} \rightarrow x^r - \frac{1}{r} x + \frac{r}{r} \rightarrow r x^r - \lambda x + r = 0 \rightarrow \frac{r}{r}$$

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