

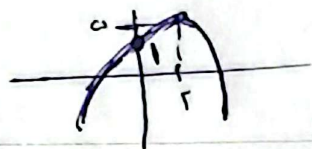
۱) $2x^2 - 4x + 1 \Rightarrow \text{ext} \mid -\frac{b}{2a} = 1$ (min)
 $y_s = 2 - 4 + 1 = -1$

۲) $-2x^2 + 3x - 0 \Rightarrow \text{ext} \mid -\frac{b}{2a} = -\frac{3}{-4} = \frac{3}{4}$ (max)
 $y_s = -2 \left(\frac{3}{4}\right)^2 + 3 \left(\frac{3}{4}\right) = -\frac{9}{2} + \frac{9}{2} = 0$

۳) $x^2 - 4x + 1$
 $x_s = -\frac{b}{2a} = 2$
 $y_s = 4 - 16 + 1 = -11$



۴) $-x^2 + 4x + 1$
 $x_s = 2$ $y_s = 9$



$K(x - \alpha)(x - \beta)^2 = K(x^3 + (-2\beta - \alpha)x^2 + (2\alpha\beta + \beta^2)x - \alpha\beta^2)$
 $= 4x^3 + Kx^2 - 4x - 2 \Rightarrow K = 4$

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

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

سوال کمال است $f(-2\beta - \alpha) = K \Rightarrow K = -20$

$x^2 - 2mx + m$

$(\sqrt{\alpha} - \sqrt{\beta})^2 = 1 \Rightarrow \alpha + \beta - 2\sqrt{\alpha\beta} = 1 \Rightarrow (2\sqrt{m})^2 = (2m - 1)^2$
 $\Rightarrow 4m^2 - 4m + 1 = 4m^2 - 4m + 1 = 4m$

$2x^2 - mx - m = P = -\frac{m}{2}$
 If $m = 1 \Rightarrow -\frac{1}{2}$
 If $m = \frac{1}{4} \Rightarrow -\frac{1}{4}$
 $4m^2 - 1 \cdot m + 1 = 0 \Rightarrow m = 1, \frac{1}{4}$

$2x^2 - (m+2)x + m \xrightarrow{\text{عوض}} x = 1, \frac{m}{2}$

$s = \frac{(m/2 - 1)m}{2} \Rightarrow \frac{m^2/2 - m}{2} = \frac{m^2 - 2m}{4}$
 $\Rightarrow m^2 - 2m - 4 = 0$
 $(m-3)(m+1) = 0$

$x^2 - mx + 1$
 If $m = -1 \Rightarrow x_s = -\frac{1}{-1} = 1$
 If $m = 2 \Rightarrow x_s = \frac{2}{2} = 1$
 $m = -1, 2$

$$ax^r + px + a$$

$$y_s = \frac{-a}{\epsilon a} = \frac{\epsilon a - 9}{\epsilon a} = \frac{v}{\lambda}$$

مقدار min دارد

$$2\lambda a^r - v\lambda = 2\lambda a$$

$$\div \epsilon \downarrow 2\lambda a^r - 2\lambda a - v\lambda = 0$$

$$\frac{19}{\lambda} = 2$$

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

$$\lambda a^r - v a - \frac{v}{\lambda} = 0 \Rightarrow a^r - v a - 1 \epsilon^2 = 0, (a-19)(a+9) = 0$$

$$x^r - (a+1)x + a \rightarrow \alpha = 1 \text{ و } 3 \Rightarrow x^r - \epsilon x + 2 \Rightarrow a = 2$$

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$$x^r - 1 \cdot x + b$$

$$s = \frac{-b}{a} = 1 \Rightarrow \alpha_1 + \alpha_1 + 2 = 1 \Rightarrow 2\alpha_1 = -1 \Rightarrow \alpha_1 = -\frac{1}{2}$$

$$\rightarrow (2 \times 2) - (1 \times 3) = 1$$

$$y = -ax^r + ax + 2 \quad \alpha_s = \frac{-a}{-2a} = \frac{1}{2} \Rightarrow -\frac{1}{2}a + \frac{1}{2}a + 2$$

$$y = 2bx^r - bx - 1 \Rightarrow \text{if } \alpha = \frac{1}{2} \Rightarrow \frac{1}{2}b - \frac{1}{2}b - 1$$

$$\alpha_s = \frac{b}{2b} = \frac{1}{2}$$

$$\frac{b}{a} - \frac{b}{\epsilon} - 1 = \frac{19}{19} - 2 + 2 \Rightarrow -\frac{b}{a} = \frac{2}{\epsilon} \Rightarrow b = -9$$

$$r\omega \alpha^r + \epsilon \alpha + \beta$$

$$\beta = \frac{c}{a} = \frac{\beta}{r\omega \alpha} = \alpha \beta \Rightarrow r\omega \alpha^r = 1 \Rightarrow \alpha = \pm \frac{1}{\omega}$$

$$\text{if } \alpha = \frac{1}{\omega} \Rightarrow s = -\frac{\epsilon}{\omega} \Rightarrow \beta = -1$$

$$\text{if } \alpha = -\frac{1}{\omega} \Rightarrow s = \frac{\epsilon}{\omega} \Rightarrow \beta = 1$$

$$-\omega x^r + \epsilon x + 1 \Rightarrow \alpha_s = \frac{-\epsilon}{-\omega} = \frac{\epsilon}{\omega} \quad y_s = \frac{1\epsilon}{\omega}$$

$$-\frac{b}{a} = a + b = a^r + b^r - 19$$

$$\beta = \frac{c}{a} = ab = a + b - 1$$

$$a + b = 1 + ab$$

$$1 + ab = a^r b^r + 1 - 19 \Rightarrow a^r b^r - ab - 18 = 0$$

$$(ab - 19)(ab + 1) = 0$$

$$ab = 19$$

$$ab = -1$$

$$a^r + b^r = (a + b)^r - 19ab \Rightarrow (1 + ab)^r - 19ab$$