

11

$$\alpha + \beta = \omega \quad \alpha \beta = r$$

$$\alpha = \omega \beta^{-1} \quad \beta^r = \omega \beta - r \quad \beta^r = \beta (\beta^r) = \beta (\omega \beta - r) = \omega (\omega \beta - r)$$

$$\beta^r = \beta (\beta^r) = \omega \beta (\omega \beta - r) = \omega^2 \beta - \omega r \beta$$

$$\beta^{\omega} = \beta (\beta^r) = \beta (\omega \beta - r) = \omega \alpha \beta - r \beta$$

$$\frac{\omega \alpha + \omega \beta^{\omega}}{\omega \beta^r} = \frac{\omega \alpha \beta + \omega^2 \beta - \omega r \beta}{\omega \beta - r} = \frac{\omega \alpha \beta - \omega r \beta}{\omega \beta - r} = \frac{\omega \alpha \beta - \omega r \beta}{\omega \beta - r}$$

(19)

21

$$x_1, x_2 = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-2 \pm \sqrt{4 - 4(-1)(-1)}}{2(-1)} = \frac{-2 \pm \sqrt{0}}{-2} = \frac{-2}{-2} = 1$$

15

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25

$$x_1 - x_2 = 2\sqrt{b^2 - 4ac} = \frac{4}{2} = 2$$

$$\sqrt{b^2 - 4ac} = \frac{4}{2} = 2$$

$$b^2 - 4ac = 4$$

$$\frac{4}{4} = 1 \Rightarrow 1 = 1$$

$$\left[\frac{b^2}{4} \right] = \left[\frac{4}{4} \right] = 1$$

معادله ۱ را بر سر می‌نویسیم

$$x^2 + 2ax + 1 = 0 \quad (1)$$

ریشه‌های معادله ۱ را x_1 و x_2 می‌نامیم

$$x_1 + x_2 = -2a \quad (2)$$

$$x_1 x_2 = 1 \quad (3)$$

$$x_1 = -a + \sqrt{a^2 - 1} \quad x_2 = -a - \sqrt{a^2 - 1}$$

$$y = ax^2 + 2ax + 1$$

$$y = 0$$

$$ax^2 + 2ax + 1 = 0$$

$$x_{1,2} = \frac{-2a \pm \sqrt{4a^2 - 4a}}{2a} = \frac{-2a \pm 2\sqrt{a^2 - a}}{2a} = \frac{-a \pm \sqrt{a^2 - a}}{a}$$

$$x_1 = \frac{-a + \sqrt{a^2 - a}}{a}$$

$$x_2 = \frac{-a - \sqrt{a^2 - a}}{a}$$

$$x_1 + x_2 = \frac{-a + \sqrt{a^2 - a}}{a} + \frac{-a - \sqrt{a^2 - a}}{a} = \frac{-2a}{a} = -2$$

پس $a = 1$

$$a) \quad \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{9}{5} \rightarrow \frac{-a \pm \sqrt{4a^2 - 4a}}{2a} = \frac{9}{5}$$

$$-a + \sqrt{4a^2 - 4a} = \frac{18}{5}$$

$$\sqrt{4a^2 - 4a} = \frac{18}{5} + a$$

$$4a^2 - 4a = \left(\frac{18}{5} + a\right)^2$$

$$4a^2 - 4a = \frac{324}{25} + \frac{36a}{5} + a^2$$

$$3a^2 - \frac{44a}{5} - \frac{324}{25} = 0$$

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$$-b^2 + 4ac = 180 \rightarrow -144 + 4 \cdot \frac{324}{25} = 180$$

$$4a^2 - 12a - 144 = 0$$

$$a^2 - 3a - 36 = 0$$

$$a = 6$$

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$$\frac{-b}{2a} = \frac{12}{2 \cdot 3} = \frac{12}{6} = 2$$

$$V1 \quad x^r \quad + r(a+1) + ra - 1$$

$$\hookrightarrow \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-r(a+1) \pm r\sqrt{a^2+4}}{2} \Rightarrow x_1 = -a-1 + \sqrt{a^2+4}$$

$$\hookrightarrow x_2 = -a-1 - \sqrt{a^2+4}$$

$$a^r = \alpha B$$

$$a^r = (-a-1 + \sqrt{a^2+4})(-a-1 - \sqrt{a^2+4}) =$$

$$+a^r + ra + 1 - a^r - r \Rightarrow ra + 1 = 0$$

$$a^r - ra + r = 0$$

معین و وجود ندارد

$$A1 \quad x^r = t \rightarrow t^r - vt - a = 0$$

$$\hookrightarrow \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{v \pm \sqrt{v^2+4a}}{2}$$

$$x^r = \frac{v \pm \sqrt{v^2+4a}}{2}$$

$$x_1 = t + \sqrt{v + \sqrt{v^2+4a}}$$

$$x_1 + x_2 = 0 \Rightarrow$$

$$D = -\frac{v - \sqrt{v^2+4a}}{2}$$

$$9) \quad x_s = \frac{-b}{2a} = \frac{\xi}{2k} = \frac{1}{k} \quad y_s = \frac{-D}{2a} = \frac{-1\xi - 2\xi k}{2k} = \frac{-\xi - 2k}{k}$$

$$\left(\frac{\xi}{k} - \frac{1}{k} \right) \cdot \frac{-\xi - 2k}{k} = \frac{-1}{k} - \xi = \frac{-1 - \xi k}{k} \Rightarrow -1 - \xi k = -\xi + 2k$$

$$2k = \xi$$

$$k = r$$

$$y_s = \frac{-\xi - 1r}{r} = -1$$

101

$$y = y$$

$$-m-x = -mx^2 + mx + 1 \rightarrow -mx^2 + (m+1)x + m+1$$

$$\Delta < 0 \rightarrow b^2 - 4ac < 0$$

$$m^2 + (m+1)^2 - 4(-m)(m+1) < 0$$

$$m^2 + (m+1)^2 + 4m(m+1) < 0$$

$$9m^2 + 6m + 1 < 0$$

$$3m+1 < 0 \rightarrow m < -\frac{1}{3}$$

$$(m+1)(m+1) < 0$$

با استفاده از

$$= -1 \text{ و } -\frac{1}{3} \rightarrow \frac{-1}{+1-} \frac{-\frac{1}{3}}{+1-}$$

$$-1 < m < -\frac{1}{3}$$

صورتها شامل صفر و صفر نیست

۲) فرض کنیم در نقطه محور قرار دهیم $(-1, 1)$ و $(3, 1)$

$$\frac{-1 \times 1 + 3}{2} = 1$$

برای میانگین طولها
محور قرار دهیم میانگین است

$$\frac{x_1 + x_2}{2} = 1 \Rightarrow x_1 + x_2 = 2$$

فرض کنیم برابر پس میانگین $(1, 1)$ و $(3, 1)$

طولهای خود محور قرار دهیم میانگین است

$$\frac{x_1 + x_2}{2} = 1 \Rightarrow x_1 + x_2 = 2$$

$$x_1 + x_2 = 2 \Rightarrow a + b = 2 \quad a^2 + b^2 = (a+b)^2 - 2ab = 4 - 2ab$$

$$\Rightarrow ab = -\frac{1}{2} \Rightarrow \frac{1}{a} = -2$$

$$y = ax^2 + 2ax + c \rightarrow 1 = a + c \Rightarrow c = 1 - a$$

$$\frac{1+a}{a} = -\frac{1}{2} \Rightarrow 3a = 2$$

$$a = \frac{2}{3}$$

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

محور قرار دهیم