

ω

$$-m\alpha^r + \epsilon_m + m^r - r = 0$$

$$\alpha = \frac{1}{\beta} \quad \alpha\beta = 1 = \frac{c}{a} \Rightarrow -m = m^r - r$$

$$m^r + m - r = 0$$

$$(m+r)(m-1) = -r \leq 1$$

$$\Delta > 0 \quad 19 + \epsilon_m(m^r - r) > 0$$

$$(1) \rightarrow 19 + \epsilon(1-1) > 0 \quad \checkmark$$

$$(-1) \rightarrow 19 - 1(1) > 0 \quad \times$$

$$m=1$$

$$\Delta > 0 \quad \leadsto m^r > 12$$

$$\alpha\beta^r = r \quad \alpha\beta = r \quad \beta = \frac{\epsilon}{c} \quad \alpha = \frac{q}{r}$$

$$\alpha + \beta = \frac{19 + 24}{12} = m$$

$$m = \frac{43}{12}$$

$$m^r - mm + c = 0 \quad 9$$

$$m^r - \epsilon_m + m = 0$$

$$r\alpha + \alpha = \epsilon\alpha = r$$

$$\alpha = 1 \quad \beta = r$$

$$\alpha\beta = r = m$$

$$V \quad \text{از ریشه ها به این روش}$$

$$\left(\alpha + \frac{r}{\epsilon}\right)^c = \alpha^c + \frac{1}{\alpha^c} + \frac{\epsilon}{\alpha^c}$$

$$m^r - V_m + r = 0 \quad \text{با این روش}$$

$$\frac{\alpha^r + r}{\alpha} = \frac{V_r}{\alpha} = V$$

$$(V)^c = \alpha^c + \frac{1}{\alpha^c} + \epsilon - q = r\epsilon c - q = 33V$$

$$h(t) = -1.0t^r + \omega \cdot t \quad 9$$

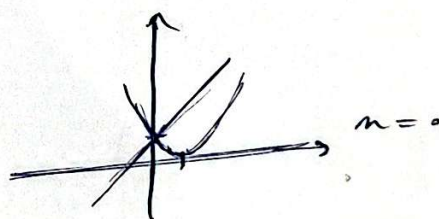
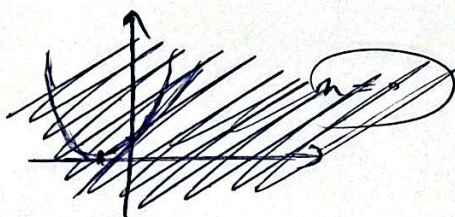
$$\frac{h}{h_0} = \frac{\omega_0}{r_0} = 2\omega$$

$$-1.0(2\delta)^r + \omega \cdot (2\delta) =$$

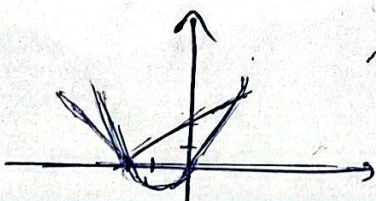
$$-95\delta + 15\delta = 45\delta$$

$$10$$

$$(m-1)^r = rm + 1$$



$$m^r + rm = |m+r|$$



$$m = -r$$

$$m=1 \quad \text{بسیار مهم}$$

$$m^r + m - r = 0 \rightarrow (m+r)(m-1)$$

$$y = -n^2 + bn + 12 \leadsto y_{max} = -\frac{b^2}{4a} \Rightarrow \frac{b^2 + 12}{4} = 17 \leadsto b = \pm 14$$

$$b^2 = 196 - 12 = 184$$

۲) افق

$$f(m) = n^2 + 2n^2 + c \xrightarrow{n^2 = x} x^2 + 2x + c = 0 \rightarrow \Delta < 0 \rightarrow \text{ریشه ندارد}$$

$$f(m) = (c - n^2)^2 - 2(c - n^2) - 12 \Rightarrow x^2 - 2x - 12 = (x - \omega)(x + \epsilon) = 0$$

$$c - n^2 = x$$

$$-n^2 + \frac{14}{-1} + 12 = 0 \leadsto n = \pm \sqrt{2}$$

$$-n^2 + \frac{14}{-1} - 12 = 0 \leadsto x$$

$$x = -\epsilon \pm \omega$$

۳) $m^2 - 14m + 12 = 0$ اگر m از ریشه ها در واحد دیگری بزرگتر باشد مقدار m و هر دو صواب و معادله؟

$$|\alpha - \beta| = 2 = \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{196 - 48}}{1} = 14$$

$$m^2 - 14m + 12 = 0$$

$$m^2 - 14m + 12 = 0$$

$$(m - \frac{12}{1}) / (m - \frac{12}{1}) = 0 \leadsto \text{ریشه های اول}$$

$$196 - 14m = 48 - 192$$

$$m = 12$$

کدام عددی

$$y = -x^2 + bx + 3 \leadsto y_{\max} = -\frac{\Delta}{4a} \Rightarrow \frac{b^2 + 12}{4} = 4 \leadsto b = \pm 4$$

$$b^2 = 16 - 12 = 4$$

۲) ارف $f(x) = x^2 + 2x + c \xrightarrow{x^2 = 4} x^2 + 2x + c = 0 \rightarrow \Delta < 0 \rightarrow$ ریشه ندارد

$$f(x) = (4 - x^2)^2 - 2(4 - x^2) - 15 \Rightarrow x^4 - 2x^2 - 18 = (x - \alpha)(x + \alpha) = 0$$

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

$$\alpha = -c \pm \omega$$

$$-x^2 + \frac{4}{4} + 3 = 0 \leadsto x = \pm \sqrt{4}$$

$$-x^2 + \frac{4}{-1} - 5 = 0 \leadsto x$$

۳) $x^2 - 14x + m = 0$ اگر یکی از ریشه ها دو و عدد دیگری بزرگتر باشد مقدار m و هر دو صواب - معادله؟

$$|\alpha - \beta| = 2 = \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{196 - 4m}}{1} = 2 \Rightarrow$$

$$x^2 - 14x + 12 = 0$$

$$x^2 - 14x + 49 = 0$$

$$(x - \frac{12}{4}) / (x - \frac{49}{4}) = 0 \leadsto$$
 ریشه های او ۳

$$196 - 4m = 44 - 192$$

$$m = 12$$