

ترانه طاهریان - تالیف شماره ۱۴ - یازدهم دختره

۱۱, ۷۵

$$y = -x^2 + bx + 12 \quad y_s = \frac{-\Delta}{2a} = 7 \Rightarrow \frac{-b^2 - 12}{-2} = 7 \Rightarrow b^2 + 12 = 28 \quad (2)$$

$$\Rightarrow b^2 = 16 \Rightarrow b = \pm 4$$

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$$الف) f(x) = x^2 + 12x + 12$$

$$\Delta = b^2 - 4ac = 144 - 48 = 96 > 0 \rightarrow \text{دو ریشه دارد}$$

(2)

$$ب) f(x) = (x - x^2)^2 - 2(x - x^2) - 12 \xrightarrow{x - x^2 = t} t^2 - 2t - 12 = 0$$

$$\Rightarrow (t - 6)(t + 2) = 0 \rightarrow t = 6 \rightarrow x - x^2 = 6 \Rightarrow x^2 = -1 \quad \text{و } t = -2 \rightarrow x - x^2 = -2 \Rightarrow x^2 = 2 \Rightarrow x = \pm \sqrt{2}$$

$$\rightarrow t = -2 \rightarrow x - x^2 = -2 \Rightarrow x^2 = 2 \Rightarrow x = \pm \sqrt{2}$$

$$4x^2 - 14x + m = 0$$

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$$8 = \alpha + \alpha + 2 = \frac{-b}{a} \Rightarrow 2\alpha + 2 = \frac{14}{4} = \frac{7}{2} \Rightarrow 2\alpha = \frac{7}{2} - 2 = \frac{3}{2} \Rightarrow \alpha = \frac{3}{4}$$

(1, 75)

$$p = \frac{c}{a} = \frac{m}{4} = 2 \Rightarrow m = 8$$

$$4x^2 - 14x + 8 = 0 \quad \Delta > 0 \checkmark$$

$$4x^2 - 14x + m - 1 = 0$$

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$$2\alpha - \beta = 4 \Rightarrow \beta = 2\alpha - 4 \quad \alpha + \beta = \frac{-b}{a} \Rightarrow \alpha + 2\alpha - 4 = \frac{14}{4} = \frac{7}{2} \Rightarrow 3\alpha = \frac{7}{2} + 4 = \frac{15}{2} \Rightarrow \alpha = \frac{5}{2}$$

(1, 75)

$$\Rightarrow 2\alpha = 4 \Rightarrow \alpha = 2, \beta = 0$$

$$p = \frac{c}{a} = \frac{m-1}{4} = 0 \Rightarrow m-1 = 0 \Rightarrow m = 1$$

$$4x^2 - 14x = 0 \quad \Delta > 0 \checkmark$$

$$-mx^2 + 14x + m - 2 = 0$$

-۵

$$\beta = \frac{1}{\alpha} \Rightarrow p = \alpha \times \frac{1}{\alpha} = 1 = \frac{c}{a} \Rightarrow \frac{m-2}{-m} = 1 \Rightarrow m-2 = -m \Rightarrow m = 1, m = -2$$

(2)

$$\xrightarrow{m=1} -x^2 + 14x - 1 = 0 \quad \Delta = b^2 - 4ac = 196 - 4 = 192 > 0$$

$$\xrightarrow{m=-2} 2x^2 + 14x + 2 = 0 \quad \Delta = b^2 - 4ac = 196 - 16 = 180 > 0$$

$$\Rightarrow m = 1$$

$$x^2 - mx + 12 = 0 \quad \alpha\beta = 12 \Rightarrow \alpha\beta \times \beta = 12 \Rightarrow \beta = \frac{12}{\alpha}, \alpha = \frac{9}{\beta}$$

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$$p = \alpha\beta = \frac{c}{a} = 12$$

$$8 = \alpha + \beta = \frac{12}{\beta} + \frac{9}{\beta} = \frac{21}{\beta} \Rightarrow \beta = \frac{21}{8}$$

(1, 75)

$$x^r - \varepsilon x + m = 0 \quad \beta = 3\alpha$$

$$S = \alpha + \beta = \alpha + 3\alpha = 4\alpha = \frac{-b}{a} = \varepsilon \Rightarrow \alpha = 1, \beta = 3$$

$$P = \alpha\beta = \frac{c}{a} \Rightarrow \alpha\beta = \frac{m}{1} \Rightarrow m = 3 \quad x^r - \varepsilon x + 3 = 0 \quad \Delta > 0 \quad \checkmark$$

$$x^r - Vx + r = 0 \Rightarrow \alpha^r - V\alpha + r = 0 \Rightarrow \alpha^r + r = V\alpha$$

$$(a+b)^r = a^r + b^r + rab(a+b) \Rightarrow \left(\alpha + \frac{r}{\alpha}\right)^r = \alpha^r + \frac{r^r}{\alpha^r} + r\left(\alpha + \frac{r}{\alpha}\right)$$

$$\Rightarrow \alpha^r + \frac{r^r}{\alpha^r} = \left(\alpha + \frac{r}{\alpha}\right)^r - r\left(\alpha + \frac{r}{\alpha}\right) = V^r - \varepsilon r = 3\varepsilon^3 - 4\varepsilon = 3 \cdot 1 = 3$$

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

$$h(t) = -1 \cdot t^r + \omega \cdot t \quad y_s = \frac{-\Delta}{\varepsilon a} = \frac{-2\omega \cdot \cdot}{-\varepsilon} = 42, \omega \rightarrow \text{ارتفاع الماسم توب}$$

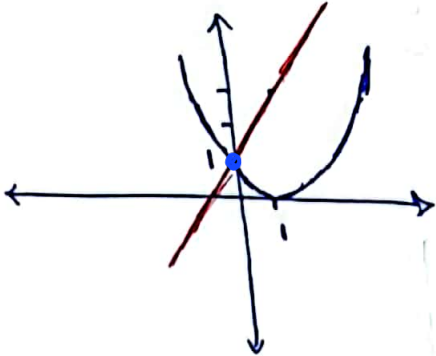
$$h=0 \rightarrow -1 \cdot t^r + \omega \cdot t = 0 \Rightarrow t(\omega - 1 \cdot t) = 0 \rightarrow t = 0$$

$\rightarrow t = \omega \rightarrow$ زمان توب به زمین برخورد می کند

$$\text{الف) } (x-1)^r = rx+1$$

$$x = 1 \quad \checkmark$$

$$x = \varepsilon$$



$$\text{ب) } x^r + rx = |x+1|$$

$$x = -1$$

$$x = 1$$

