

$$y = -x^2 + bx + 3$$

$$\rightarrow y_{\max} = 7 \rightarrow \frac{-\Delta}{2a} = 7 \rightarrow \frac{-(b^2 + 12)}{-2} = 7 \rightarrow b^2 = 14 \rightarrow b = \pm \sqrt{14}$$

$$\begin{cases} y = -x^2 - \sqrt{14}x + 3 \checkmark \\ y = -x^2 + \sqrt{14}x + 3 \checkmark \end{cases}$$

تابع ریشه ندارد $f(x) = x^2 + 2x + 3 \xrightarrow{x^2+t} t^2 + 2t + 3 = 0 \xrightarrow{\Delta < 0}$

ب) $f(x) = (x-1)^2 - 2(4-x^2) - 18 \xrightarrow{x^2=t} t^2 - 2t - 18 = 0$

$$\begin{cases} t = 5 \rightarrow -x^2 - 1 = 0 \quad X \\ t = -2 \rightarrow -x^2 + 7 = 0 \rightarrow x^2 = 7 \rightarrow x = \pm \sqrt{7} \end{cases}$$

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

$$\begin{cases} \alpha + \beta = 7 \\ \alpha = \beta + 2 \end{cases} \rightarrow \underline{\beta = 1 \quad \alpha = 3}$$

$$\rightarrow \alpha \beta = 3 \rightarrow \frac{m}{2} = 3 \rightarrow \underline{m = 12}$$

$$\begin{cases} 2\alpha - \beta = 2 \\ \alpha + \beta = 2 \end{cases} \rightarrow 3\alpha = 4 \rightarrow \alpha = \frac{4}{3} \quad \beta = 0 \rightarrow \alpha \beta = 0$$

$$\rightarrow \frac{m-1}{3} = 0 \rightarrow \underline{m = 1}$$

$$\rightarrow -mx^2 + \epsilon x + m^2 - 2 = 0$$

$$\rightarrow \frac{m^2 - 2}{-m} = 1 \rightarrow m^2 + m - 2 = 0 \rightarrow \begin{cases} m = 1 \rightarrow -x^2 + \epsilon x - 1 = 0 \checkmark \\ m = -2 \rightarrow 2x^2 + \epsilon x + 2 = 0 \quad X \quad \Delta < 0 \end{cases}$$

$$x^r - mx + r = 0$$

$$\alpha \beta^r = r \rightarrow \underbrace{\alpha \beta}_r \times \beta = r \rightarrow \beta = \frac{r}{r} \quad \alpha = \frac{r}{2}$$

$$\rightarrow S = \frac{r}{r} + \frac{r}{2} = \frac{19+24}{12} = \frac{43}{12} \rightarrow \frac{-(-m)}{1} = \frac{43}{12} \rightarrow m = \frac{43}{12}$$

$$x^r - \varepsilon m + m = 0$$

$$\rightarrow \left. \begin{array}{l} \alpha + \beta = r \\ \alpha = r\beta \end{array} \right\} \rightarrow \beta = 1 \quad \alpha = r \rightarrow \alpha \beta = r \rightarrow m = r$$

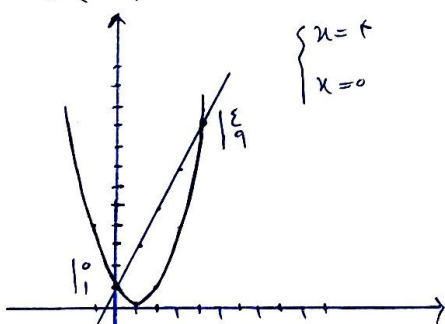
$$x^r - vx + r = 0$$

$$\rightarrow \alpha \beta = r \rightarrow \alpha^r \beta^r = r^r \rightarrow \beta^r = \frac{r^r}{\alpha^r} \rightarrow \alpha^r + \frac{r^r}{\alpha^r} = \alpha^r + \beta^r = s^r - r s p = v^r - r(v)(r) = \underline{r \cdot 1}$$

$$h(t) = -1 \cdot t^r + \delta \cdot t \Rightarrow -1 \cdot t(t - \delta) = 0 \rightarrow \left\{ \begin{array}{l} t = 0 \\ t = \delta \end{array} \right. \checkmark$$

$$y_{\max} = \frac{-\Delta}{\varepsilon a} = \frac{-(r\delta \dots)}{-\varepsilon} = \frac{r\delta \dots}{\varepsilon} = 42/8$$

$$\text{الف) } (n-1)^r = rn + 1$$



$$\left\{ \begin{array}{l} x = r \\ x = 0 \end{array} \right.$$

نقطة

$$\text{ب) } x^r + rn = |n + r|$$

$$\left\{ \begin{array}{l} x = 1 \\ x = -r \end{array} \right.$$

