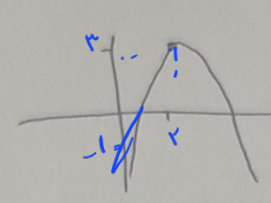
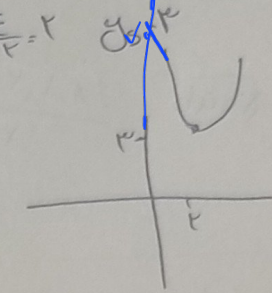


۱۷, ۲۵

الف $\eta_s = \frac{f}{-r} = 2 \quad y_s = 4$ $\eta = \frac{-f \pm \sqrt{f^2 - r^2}}{-r} = 2 \pm \sqrt{3}$ 	ب $\eta_s = \frac{f}{r} = 2 \quad y_s = 4$  ۱, ۲۵	۱	
$\Delta = 0 \quad (m+1)^2 - 4(\frac{1}{r}m+2) = 0 \quad m^2 - 2m - 1 = 0$ $(m-\omega)(m+\omega) = 0 \quad \begin{cases} m=\omega \\ m=-\omega \end{cases}$ $\Delta \rangle \cdot (m+1)^2 - 4(\frac{1}{r}m+2) \rangle \cdot m^2 - 2m - 1 \rangle \cdot (m-\omega)(m+\omega) \rangle \cdot (-\omega, -\omega) \cup (\omega, \omega)$	الف) ω $\Delta \rangle \cdot (m+1)^2 - 4(\frac{1}{r}m+2) \rangle \cdot m^2 - 2m - 1 \rangle \cdot (m-\omega)(m+\omega) \rangle \cdot (-\omega, -\omega) \cup (\omega, \omega)$ ب) ω $\Delta \rangle \cdot (m+1)^2 - 4(\frac{1}{r}m+2) \rangle \cdot m^2 - 2m - 1 \rangle \cdot (m-\omega)(m+\omega) \rangle \cdot (-\omega, -\omega) \cup (\omega, \omega)$ ج) ω	۲	
$P \rangle \cdot \frac{1}{m-r} \rangle \cdot m-r \rangle \cdot m-r \rangle \cdot (1, 2) \rangle$ $S \rangle \cdot \frac{r(m+2)}{m-r} \rangle \cdot \frac{1}{r} \rangle \cdot (1, 2) \rangle$ $\Delta \rangle \cdot m^2 - 4m + 4 \rangle$ $\textcircled{1} \cap \textcircled{2} = (1, 2)$	$\Delta \rangle \cdot (r(m+2))^2 - 4(m-r) \rangle \cdot m^2 - 4m + 4 \rangle$ $P \rangle \cdot \frac{1}{m-r} \rangle \cdot m-r \rangle \cdot m-r \rangle \cdot (1, 2) \rangle$ $S \rangle \cdot \frac{r(m+2)}{m-r} \rangle \cdot \frac{1}{r} \rangle \cdot (1, 2) \rangle$ $\textcircled{1} \cap \textcircled{2} = \emptyset$	۳	
$\frac{-b}{2a} = -2 \quad \frac{r(m+2)}{r(m-r)} = -2$ $r(m+2) = -2(r(m-r)) \quad 4m = 4 \quad m=1$	الف) $r(m+1) \neq 0 \quad r(m+2) \neq 0 \quad m \neq -1$ $\Delta \rangle \cdot (-r(m+1))^2 - 4(m-r) \rangle$ $\epsilon m^2 - 4m + 4 - \epsilon(m+1) \rangle$ $\epsilon m^2 - 4m + 4 \rangle$ $\frac{c}{a} \rangle \cdot m \rangle \cdot m \neq -1$	۴	
$\epsilon x^2 - (r \sin \alpha) x + a = 0 \quad \Delta \rangle \cdot 1 \epsilon \epsilon_{\sin^2 \alpha} - 4 \epsilon \epsilon \rangle \cdot 1 \epsilon \epsilon_{\sin^2 \alpha} \geq 1 \epsilon \epsilon \quad \sin^2 \alpha \geq 1$ $\sin \alpha = \pm 1$ $\sin \alpha = 1 \rightarrow \epsilon x^2 - 1 x + a = 0 \quad x = \frac{-1}{1} = -1$ $\sin \alpha = -1 \rightarrow \epsilon x^2 + 1 x + a = 0 \quad x = \frac{-1}{1} = -1$			۵

$$\frac{(x-1)(x_{n+1})(x+1)(x-\omega)}{(1-x)(1+x)} = \frac{(x_{n+1})(x-\omega)}{(x_{n+1})(x-\omega)} = -4x^2 + 4x_{n+1}\omega$$

$$x_{max} = \frac{b}{ka} = \frac{-14}{-14} = \frac{14}{14} \quad y_{max} = \frac{ka}{k} = \frac{14}{14}$$

5

f

$$v\left(\frac{m+y}{m}\right) = \omega\left(\frac{y}{m}\right) + v \quad \frac{v_{m,y}}{m} = \frac{10 + \sqrt{m}}{m} \quad v_{m,y} = 10 + \sqrt{m} \quad \epsilon m = 4 \quad n = 5$$

$$\epsilon x^2 - 4x + 1 = 0 \rightarrow \epsilon x^2 - 4x + 1 = 0 \quad S = \frac{4}{\epsilon} \quad P = \frac{1}{\epsilon}$$

$$\left(\frac{x_1 + x_2}{\frac{a}{\epsilon}}\right)^2 = x_1^2 + x_2^2 + \underbrace{2x_1x_2}_{+1} \quad x_1^2 + x_2^2 = \frac{14}{\epsilon}$$

5

y

$$\alpha\beta = 1 \rightarrow \beta = \frac{1}{\alpha} \quad \frac{\alpha + \beta^2}{\alpha} = 14$$

9

A

$$C = f \quad y_D = 2m + 1 \rightarrow \begin{cases} f(x) + 1 = 14 \\ f(-x) + 1 = 14 \end{cases} \quad \begin{matrix} (x, 14) \\ (-x, 14) \end{matrix} \quad \left. \begin{matrix} (x, 14) \\ (-x, 14) \end{matrix} \right\} \begin{matrix} \text{نقطه های } y=14 \text{ در } f(x) \end{matrix}$$

$$y_1 = x^2 + 4x + 5$$

$$\begin{cases} a(x)^2 + b(x) + c = 14 \\ a(-x)^2 + b(-x) + c = 14 \end{cases} \quad \begin{cases} 4a + 2b = 10 \xrightarrow{x^2} 14a + 4b = 20 \\ 4a - 2b = 0 \xrightarrow{x^2} 14a - 4b = 0 \end{cases} \quad \begin{matrix} 10a = 20 \\ a = 2 \\ b = 10 \end{matrix}$$

$$x_5 = \frac{b}{ka} = \frac{10}{2} = \frac{5}{1}$$

5

9

$$y = x \quad \epsilon x^2 + 4mx + m + 4 = 0 \quad D = 0 \quad m^2 - 4(m+4) = m^2 - 4m - 16 = 0 \quad \begin{cases} m = 4 \\ m = -8 \end{cases}$$

$$m = 4 \rightarrow x^2 + 4x + 9 = 0 \quad \begin{cases} x = 5 \\ y = -1 \end{cases} \quad \alpha$$

$$m = -8 \rightarrow x^2 - 2x + 1 \rightarrow x = 1 \quad y = 1$$

5