

(ایکوی درجه دوم) 14, 15

$-x^2 + bx + c = x \rightarrow \frac{-b}{-2} = \frac{b}{2} \rightarrow \sqrt{b^2 - 4(-c)} \rightarrow \sqrt{b^2 + 12} = 2 \rightarrow b^2 + 12 = 4 \rightarrow b = \pm \sqrt{4-12} \leftarrow$

$y_{max} = \frac{-\Delta}{4a} = \frac{-(b^2 + 12)}{-4} = 3 \rightarrow b = \pm 2 \sqrt{1-1}$

الف) $t^2 - 2t - 1 \rightarrow (t-1)(t+1) \rightarrow t = 1, -1$
 $x = \pm \sqrt{v} \leftarrow x^2 = v \leftarrow x^2 - x^2 = 0 \leftarrow x^2 - x^2 = -1$

$\alpha + \beta = 3 \rightarrow (\alpha + \beta)\alpha = \alpha^2 + \beta\alpha = \frac{m}{f} \rightarrow m = 12$
 $\alpha + \beta + \alpha = 2\alpha + \beta = 4$
 $\alpha = 1, \beta = 3$

$\begin{cases} 2\alpha - \beta = 2 \\ \alpha + \beta = 2 \end{cases} \rightarrow \begin{cases} 2\alpha - \beta = 2 \\ 2\alpha + \beta = 2 \end{cases} \rightarrow -2\beta = 0 \rightarrow \beta = 0$
 $3(0)^2 - 4(0) + m - 1 = 0 \rightarrow m = 1$

$\frac{m^2 - 2}{-m} = -1 \rightarrow m^2 - 2 = -m \rightarrow m^2 + m - 2 = 0 \rightarrow (m+2)(m-1) \rightarrow m = -2, 1$

$\alpha \times \beta \times \beta = 2 \rightarrow \beta = \frac{2}{\alpha} \rightarrow \frac{14}{9} - \frac{2}{3}m + 1 = 0 \rightarrow \frac{m^2}{3} = \frac{2m}{3} \rightarrow 12m = 2m^2 \rightarrow m = \frac{2m}{12}$

$3\alpha = \beta \rightarrow 3\alpha + \alpha = 4\alpha = 2 \rightarrow \alpha = \frac{1}{2} \rightarrow \beta = \frac{3}{2} \rightarrow m = 3$

$\alpha^m + \frac{1}{\alpha^n} \rightarrow \alpha^m + \beta = 5 \rightarrow \alpha^m + \frac{1}{\alpha^n} = 5 \rightarrow \alpha^m + \frac{1}{\alpha^m} = 5 \rightarrow \alpha^{2m} + 1 = 5\alpha^m \rightarrow \alpha^{2m} - 5\alpha^m + 1 = 0$

$h(t) = -10t^2 + \omega_0 t \rightarrow \frac{\Delta}{4a} = \frac{\omega_0^2}{4(-10)} = \frac{\omega_0^2}{-40}$
 $0 = -10t^2 + \omega_0 t \rightarrow t = 0, \omega_0$
 $\omega_0 = \sqrt{40} = 2\sqrt{10}$
 $\text{ارتفاع} = \frac{-\Delta}{4a} = \frac{-(2000)}{-40} = 50 \text{ m}$

الف) $\Rightarrow x = 0, 4$

