

$$-\frac{\Delta}{K\alpha} = V \rightarrow b^2 - 4(-1)(3) = 28 \rightarrow b^2 = 28 - 12 = 16 \quad b = \pm 4 \quad (1)$$

اف) $\rightarrow$ هر عددی به جای α بنویسیم حاصل مثبت می شود.

$$ب) \quad \alpha^2 - 2\alpha - 1 = 0 \quad (\alpha - 1)(\alpha + 1) = 0 \rightarrow \alpha^2 = 1 \rightarrow \alpha = \pm \sqrt{1}$$

$$\rightarrow \alpha^2 = -1 \times$$

$$\alpha_1 = \alpha \quad \alpha_2 = \alpha + 2 \Rightarrow \alpha + \alpha + 2 = \frac{14}{K} \rightarrow 2\alpha = 2 \rightarrow \alpha = 1 \quad (2)$$

$$\alpha_1 = 1 \quad \alpha_2 = 3 \quad 3 = \frac{m}{K} \rightarrow m = 12$$

$$\alpha + B = 2 \rightarrow B = 2 - \alpha \rightarrow 2\alpha - 2 + \alpha = 4 \rightarrow 3\alpha = 4 \rightarrow \alpha = \frac{4}{3} \quad B = 0$$

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

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

$$m \begin{cases} \rightarrow -2 \rightarrow 2\alpha^2 + 4\alpha + 2 = 0 \rightarrow \Delta = 0 \rightarrow \alpha = -1 \rightarrow \alpha = -1 \\ \rightarrow -1 \rightarrow -\alpha^2 + 4\alpha - 1 = 0 \quad \checkmark \end{cases}$$

$$\boxed{m=1} \quad \checkmark$$

$$\alpha B = 3 \rightarrow \alpha B^2 = 4 \rightarrow 3B = 4 \rightarrow \boxed{B = \frac{4}{3}} \quad \boxed{\alpha = \frac{9}{K}} \quad m = \frac{9}{K} + \frac{K}{3} = \frac{3V+14}{12} = (4)$$

$$m = \frac{K \cdot 3}{12}$$

$$\alpha_1 = \alpha \quad \alpha_2 = 3\alpha \quad S = K\alpha = 4 \rightarrow \boxed{\alpha=1} \quad \boxed{B=3} \quad P = \boxed{m=3} \quad (5)$$

$$\alpha B = 2 \rightarrow B = \frac{2}{\alpha} \Rightarrow \alpha^2 + \frac{1}{\alpha^2} = \alpha^2 + B^2 = S^2 - 3SP \quad | \quad S=V \quad P=2 \quad (6)$$

$$S^2 - 3SP = 3K^2 - 3(V)(2) = \boxed{30} \quad \checkmark$$

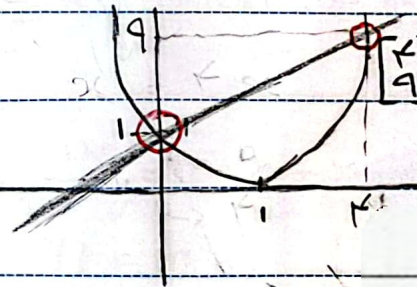
$$h(t) = -10t^2 + \omega t \rightarrow y_{\max} = \frac{-(1500 - 4(-1)(0))}{-40} = \frac{1500}{40} = 37.5 \quad (9)$$

$$t^2 - \Delta t = 0 \rightarrow t(t - \omega) = 0 \rightarrow t \rightarrow 0 \rightarrow \text{لحظه شروع حرکت که نقطه اولی زمین}$$

$$t \rightarrow \omega \rightarrow \text{نقطه زمین میرسد}$$

الف) $x^2 - 2x + 1 = 2x + 1$

$$\frac{b}{2a} = \frac{2}{2} = 1 \quad y_{\min} = 0$$



ب) $x^2 + 2x = |x + 2|$

$$x = -\frac{b}{2a} = -\frac{2}{2} = -1 \quad y = -1$$

نقطه برخورد $\begin{bmatrix} 1 \\ 3 \end{bmatrix}$ و $\begin{bmatrix} -2 \\ 0 \end{bmatrix}$

