

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

$$-\frac{\Delta}{4a} = v \Rightarrow \frac{18a}{-12} = -b^2 + 4ac \Rightarrow b^2 = 14 = 2b = \pm 2 \quad ($$

الف) $f(x) = x^2 + 2x^2 + 3 = x^2 + 2x + 3$

$\Delta = 4 - 12 \Rightarrow \Delta < 0$ (دو جواب حقیقی ندارد)

ب) $f(x) = (x - x^2)^2 - 2(x - x^2) - 15$

۱) $14 - 2x^2 + x^2 - 2 + 2x^2 - 15 = x^2 - 4x^2 - 3 = x^2(1 - 4) - 3 = -3x^2 - 3 = 0$

۲) $(x - x^2) = t \Rightarrow t^2 - 2t - 15 = 0 \Rightarrow (t - 5)(t + 3) = 0$

$\Rightarrow t = -3, 5$

$$\begin{cases} x - x^2 = -3 \Rightarrow x^2 = 3 \Rightarrow x = \pm\sqrt{3} \\ x - x^2 = 5 \Rightarrow x^2 = -1 \quad \text{خارج از حیطه} \end{cases}$$

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

$S = 2$

$P = \frac{m}{f}$

$x_1 + x_2 = x_2$

۲ جواب معادله P, m

$\Delta > 0 \Rightarrow b^2 - 4am = 196 - 4m > 0 \Rightarrow 4m < 196 \Rightarrow m < 49$

$x_1 + x_2 = 2 \Rightarrow x_1 + x_1 + 2 = 2 \Rightarrow 2x_1 = 0 \Rightarrow x_1 = 0$

$x_2 = \frac{1}{x_1} + 2 = 2$

$P = x_1 x_2 = 2 = \frac{m}{f} \Rightarrow m = 12$

$2\alpha - \beta = 2$

$3x^2 - 4x + m - 1 = 0$

$2\alpha = \beta + 2$

$\delta = \alpha + \beta = -\frac{b}{a} = 2$

$\Rightarrow 2\alpha = \frac{\beta + 2}{2}$

$\rho = \frac{c}{a} = \frac{m-1}{3} = 0 \Rightarrow m = 1$

$\Rightarrow \frac{\beta + 2}{2} + \beta = 2$

$\alpha\beta = 0$

$\Rightarrow \beta + 2 + 2\beta = 2$

$\Rightarrow 3\beta = 0 \Rightarrow \beta = 0, \alpha = 2$

$-mx^2 + fx + m^2 - 2 = 0$

$\Delta = 0 \Rightarrow a = c$

$-m = m^2 - 2 \Rightarrow m^2 + m - 2 = 0 \Rightarrow (m + 2)(m - 1) = 0 \Rightarrow m = \begin{cases} 1 \\ -2 \end{cases}$

$\Delta = b^2 - 4ac = 4 \Delta = 14 - 4m > 0 \Rightarrow 4m < 14 \Rightarrow m < 3.5$

$\Delta > 0$

در این حالت قبول است.

$$\alpha + \beta = m = \frac{9}{r} + \frac{r}{14} = \frac{14 + r^2}{14} = \frac{r^2 + 14}{14}$$

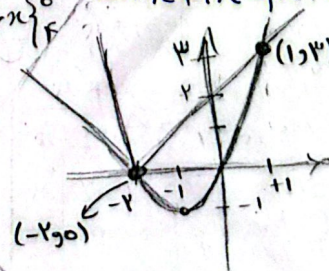
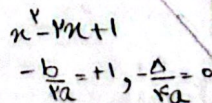
$$\rho = \alpha \beta = m \Rightarrow \pi_1 \pi_2 = m = \psi \Rightarrow \overline{m = \psi}$$

$$\therefore (a+b)^4 = a^4 + b^4 + 4a^3b + 6a^2b^2 + 4ab^3$$

$$t = -\frac{b}{2a} = -\frac{50}{-20} = 2.5 \text{ زمان اوج ارتفاع توپ}$$

$$-10t^2 + 40t = 0 \Rightarrow t(-10t + 40) = 0 \Rightarrow \underline{t=0} \quad \underline{4}$$

$$\begin{aligned} x + y &= 7x - y \\ &= 7x + yx = x + y - 7x + x - y = 0 \\ &= 7(9 + y)(x - 1) = 0 \Rightarrow x = 1 - y \end{aligned}$$



$$\begin{aligned} x+y &= -x-y \quad x- y \\ =7x^y + yx + x+y &= yx^y + xy + y = 0 \\ =2(x+1)(x+y) &= 0 = 7x - 19 - y \\ &\text{ } / \times \end{aligned}$$

چون از ۲- خارج نشود