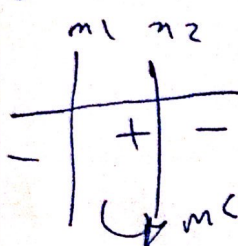


$$y = (a-1)x^2 + x + 3$$

$$\text{فصل اول} \rightarrow y = 0 \rightarrow \frac{-b}{2a} = \frac{-1}{2(a-1)} = 2 \rightarrow -1 = 2(a-1) \rightarrow a = \frac{1}{2}$$

$$\text{فصل دوم} \rightarrow -\frac{1}{2}x^2 + x + 3 = 0 \rightarrow x^2 - 2x - 6 = 0 \rightarrow (x-4)(x+2) = 0 \rightarrow x = 4 \checkmark$$

$$y = mx^2 - 2x + m$$



$$\Delta > 0 \rightarrow 4 + (-2)(m) > 0 \rightarrow 4 > 2m \rightarrow m < 2$$

$$-\frac{5}{2} < m < 2$$

$$\alpha = \frac{1+\sqrt{5}}{2}$$

$$\beta = \frac{1-\sqrt{5}}{2} \rightarrow \alpha + \beta = 1 \rightarrow \frac{1}{2} = \frac{-b}{a} = \frac{1}{2} \rightarrow x^2 - 2x + \frac{1}{2}$$

$$x^2 - 2x + m + 1 = 0 \rightarrow 4 + (-2)(m+1) > 0 \rightarrow 4 - 2m - 2 > 0 \rightarrow 2 > 2m \rightarrow m < 1$$

$$\alpha + \beta = 1 \rightarrow \alpha + (\alpha + \beta) = 1 \rightarrow 2\alpha = 1 \rightarrow \alpha = \frac{1}{2}$$

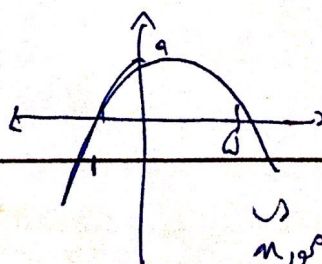
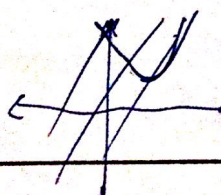
$$5 - 2p = 14 + (-1)(m+1) = 12 - m \rightarrow m = 7$$

$$\text{جواب اول} \rightarrow m = 7$$

$$a(n-1)^2 + 9 = a(n^2 - 2n + 1) + 9$$

$$a(n^2 - 2n + 1) + 9 = 0 \rightarrow a = -1$$

$$c = 9$$



$$n_1, n_2 = \{0, 9\}$$

$$\alpha n^r - Vx + 9\beta = 0 \rightarrow \alpha \cdot \beta = 9\beta \rightarrow \alpha = 9$$

$$\alpha + \beta = -V$$

$$\beta = -14$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{1}{9} - \frac{1}{14} \Rightarrow \frac{14-9}{14 \times 9} = \frac{V}{182}$$

$$x^r + mx - rm = 0 \rightarrow \alpha^r = rm - m\alpha$$

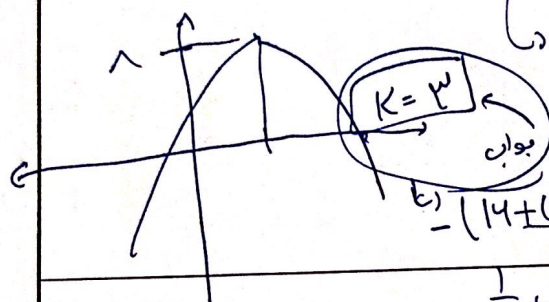
$$\alpha^r - m\beta = 1$$

$$\rightarrow rm - m\alpha - m\beta = 1 \rightarrow rm + m^r = 1$$

$$-m(\alpha + \beta) - \frac{b}{a} \rightarrow -m$$

$$m^r + rm - 1 = 0$$

$$f(x) = mx^r + \epsilon x + \frac{m}{r} + V \rightarrow \frac{-b}{2a} = \left(\frac{-\epsilon}{2m} \right)$$

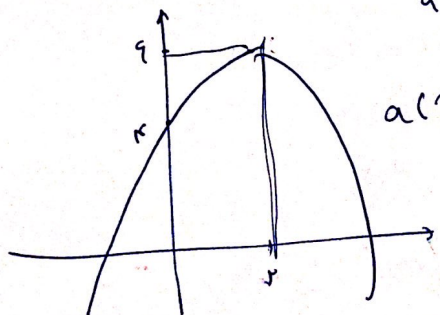


$$mx^r + \epsilon x + \frac{m}{r} - 1 = 0$$

$$rmx + \epsilon x + m = 1$$

$$-(14 + (-\epsilon)(m)) \left(\frac{m}{\epsilon} + V \right) = -(14 - rm^r - rm) = rm$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = 9 \rightarrow \frac{\alpha + \beta}{\alpha\beta} = \frac{9}{-14} \rightarrow -\frac{b}{a} = -\epsilon$$



$$a(n-r)^r + 4 \rightarrow -x + \epsilon x + \epsilon \rightarrow \epsilon x + 4 = 0$$

$$a(n^r - (m + \epsilon)) + 4 \rightarrow \epsilon a + 4 = 0$$

$$\epsilon a + 4 = 0$$

$$-1$$

$$x^r - (ra + r)x + (ra^r + 4a + r) \rightarrow x^r - rx + 1 = 0$$

$$r - r(\epsilon a + \epsilon) + (ra^r + 4a + r) = 0$$

$$r - ra - 1 + ra^r + 4a + r = 0$$

$$ra^r - ra - 1 = 0 \rightarrow a^r - a - 1 = 0$$

$$(a - r)(a + 1) = 0$$

$$+4 = \frac{1}{r} \rightarrow \frac{1}{r} = 1 \rightarrow r = 1$$