

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

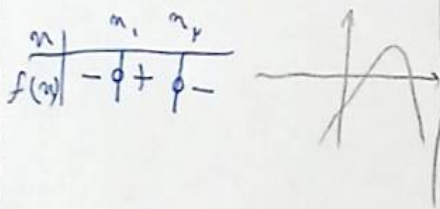
$$\frac{-b}{2a} = 2 \leadsto -b = 4a \rightarrow -1 = 4a - 4 \rightarrow a = \frac{3}{4}$$

$$-\frac{1}{4}n^2 + n + 2 = 0 \rightarrow -n^2 + 4n + 8 = 0$$

$$\begin{cases} n = 4 \\ n = -2 \end{cases} \leftarrow \text{باز - بزرگ}$$

$$y = -\frac{1}{4}n^2 + n + 2$$

$$f(n) = mn^2 - 2n + n$$



$$(I) \Delta > 0 \rightarrow 4 - 4(m^2) > 0 \Rightarrow 1 > m^2$$

$$m^2 < \frac{1}{4} \Rightarrow -\frac{1}{2} < m < \frac{1}{2}$$

$$(I) \cap (II) \Rightarrow -\frac{1}{2} < m < \frac{1}{2}$$

$$f = \frac{3 - \sqrt{5} + 3 + \sqrt{5}}{2} = \frac{6}{2} = 3$$

$$p = \frac{(3 - \sqrt{5})(3 + \sqrt{5})}{9} = \frac{4}{9}$$

$$y = n^2 - 2n + 3$$

$$2\alpha^2 + \beta^2 = 12 \Rightarrow 2\alpha^2 + \alpha^2 + \beta^2 = 12 \Rightarrow 3\alpha^2 + 5 - 2p = 12 \xrightarrow{\substack{f=3, p=\frac{m-1}{2} \\ 2\alpha^2 = 12 - m - 2}}$$

$$12 - m - 2 + 12 - m - 2 = 12 \Rightarrow 24 - 2m - 4 = 12 \Rightarrow 20 - 2m = 12 \Rightarrow 2m = 8 \Rightarrow m = 4$$

$$12 - m = 8$$

$$f\alpha = m$$

$$\begin{cases} f\alpha = m \\ f\beta = m \end{cases}$$

$$\frac{-b}{2a} = 2 \rightarrow -b = 4a \rightarrow a = -1, c = 5$$

$$\frac{4ac - b^2}{4a} = 9 \Rightarrow 4(-1)(5) - b^2 = 9(-1) \Rightarrow -20 - b^2 = -9 \Rightarrow b^2 = -11 \Rightarrow b = \pm \sqrt{-11}$$

$$y = -n^2 + 4n + 5 \leadsto n = 5, n = -1$$

$$(-1, 5)$$

