

$$\Delta = r \sin^2 \alpha - r = 0 \quad \sin \alpha = \pm 1$$

$$\sin \alpha = 1 \quad \text{when } \alpha = \frac{\pi}{2}$$

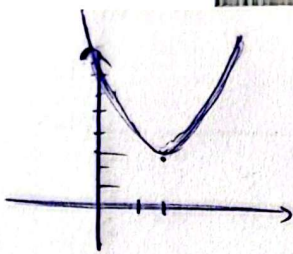
$$-(r_m + 1)(r_m - a)$$

$$\frac{-\Delta}{\epsilon_0} = \frac{219}{155}$$

$$\mu_m + \gamma = v_m - 10$$

$$K_m r - q_m - r = 0$$

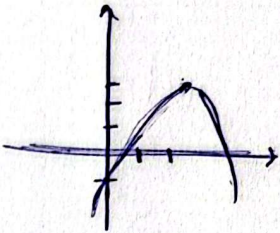
$$S^r - r p = \frac{(m+r)r}{m^r} + \frac{c}{m} = \frac{m^r}{19} + \frac{19}{19} = \frac{m^r + 19}{19}$$



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

(الف)

$$-x^2 + 2x - 1 = -(x^2 - 2x + 1) = -(x-1)^2 + 0$$



(ب)

$$x^2 + (m+1)x + \frac{1}{m} + 2 = 0$$

$$\Delta \geq 0 \quad (m+1)^2 - 4\left(\frac{1}{m} + 2\right) \geq 0 \quad (الف)$$

$$(-\infty, -2) \cup (2, +\infty)$$

$$m^2 - 2m - 1 \geq 0 \quad (m-1)(m+1) \geq 0$$

$$\Delta = 0 \Rightarrow m = -1 \text{ or } 1$$

(ج)

$$\Delta < 0 \Rightarrow m \in (-1, 1)$$

(د)

$$(-\infty, -2] \cup [2, +\infty)$$

(هـ)

$$\Delta \geq 0 \Rightarrow x^2 + 2x + 1 = (x+1)^2 \geq 0$$

$$P \geq 0 \Rightarrow \frac{1}{m-1} \geq 0 \Rightarrow m > 1$$

$$S \geq 0 \Rightarrow \frac{2(m+1)}{m-1} \geq 0 \Rightarrow m < -1$$

$$\left. \begin{array}{l} m > 1 \\ m < -1 \end{array} \right\} \emptyset$$

$$m^2 - 2m + 1 \geq 0$$

$$(m-1)^2 \geq 0$$

$$\Delta \geq 0 \quad \checkmark$$

$$\left. \begin{array}{l} S \geq 0 \Rightarrow \frac{m+1}{m-1} \geq 0 \Rightarrow m > 1 \text{ or } m < -1 \\ P \geq 0 \Rightarrow \frac{1}{m-1} \geq 0 \Rightarrow m > 1 \end{array} \right\} (-1, 1)$$

$$P \geq 0 \Rightarrow m-1 \geq 0 \Rightarrow m \geq 1$$

از هر چهار ناحیه عبور کند

(و)

$$\Delta \geq 0 \quad \checkmark$$

$$\frac{x(m+1)}{x(m-1)} = -1$$

$$\frac{m}{m+1} = \frac{m}{m+1} + \frac{1}{m+1}$$

$$m = 1$$

(ز)

$$an^r + bn + c \rightsquigarrow C = r$$

$$r_{m+1}$$

$$an^r + (b-r)n + c - 1 = 0$$

$$\left(\begin{array}{l} a = -r \\ a = r \end{array} \right)$$

$$a = r$$

$$ra - (b-r)r + r - 1 = 0$$

$$ra - rb + r + r - 1 = 0$$

$$ra = rb$$

$$ra = b$$

$$ra + (b-r)r + r - 1 = ra + rb - 1 = 0$$

$$ra + ra = 1$$

$$a = 1$$

$$b = r$$

$$\Rightarrow n = \frac{-b}{ra} = \frac{-r}{r}$$

$$y = n$$

$$y = r_{m+1} + (m+1)n + m+r$$

$$r_{m+1} + mn + m + r = 0$$

$$m^2 - 1m - r = 0$$

$$(m-1)(m+r)$$

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