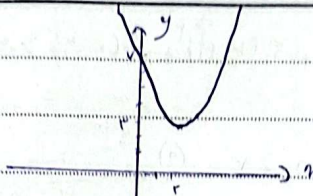
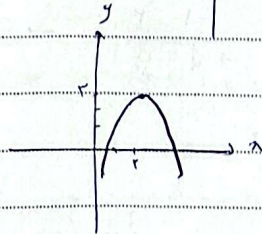


$$\text{a) } \text{ext} \left| \begin{array}{l} -\frac{b}{2a} = \frac{5}{2} = r \\ 5 - 1 + r = 3 \end{array} \right.$$



$$\text{b) } \text{ext} \left| \begin{array}{l} -\frac{b}{2a} = \frac{-5}{-2} = r \\ -5 + 1 - 1 = 3 \end{array} \right.$$



$$\frac{c}{a} = -\frac{1}{-1} = 1 \rightarrow \text{شبهه}$$

$$\text{الف) } \Delta > 0 \rightarrow b^2 - 4ac > 0 \rightarrow (m+1)^2 - 4(r)(\frac{1}{r}m+r) > 0 \rightarrow m^2 + 1 + 2m - (4m + 4) > 0$$

$$\rightarrow m^2 + 1 + 2m - 4m - 4 > 0 \rightarrow m^2 - 2m - 3 > 0 \rightarrow (m-3)(m+1) > 0$$

$$P < 0 \rightarrow \frac{c}{a} < 0 \rightarrow \frac{\frac{1}{r}m+r}{r} < 0 \xrightarrow{\times r} \frac{1}{r}m+r < 0 \rightarrow \frac{1}{r}m < -r \rightarrow m < -r \quad (2) \rightarrow \text{نقطة: } m < -r$$

$$\text{ب) } \Delta = 0 \rightarrow b^2 - 4ac = 0 \rightarrow (m+1)^2 - 4(r)(\frac{1}{r}m+r) = 0 \rightarrow m^2 + 1 + 2m - (4m + 4) = 0$$

$$\rightarrow m^2 - 2m - 3 = 0 \rightarrow m = \frac{2 \pm \sqrt{4 + 12}}{2} = \frac{2 \pm 4}{2} \rightarrow m = 3 \text{ or } m = -1$$

$$\rightarrow \text{نقطة: } m = \frac{-r}{a}$$

$$P > \frac{c}{a} > 0 \rightarrow \frac{\frac{1}{r}m+r}{r} > 0 \rightarrow \frac{1}{r}m+r > 0 \rightarrow m > -r \quad (2)$$

$$\text{ج) } \Delta < 0 \rightarrow (m+1)^2 - 4(r)(\frac{1}{r}m+r) < 0 \rightarrow (m-3)(m+1) < 0$$

$$\frac{-r}{a} < m < \frac{-r}{b}$$

$$\text{د) } \Delta \geq 0 \rightarrow (m+1)^2 - 4(r)(\frac{1}{r}m+r) \geq 0 \rightarrow (m-3)(m+1) \geq 0$$

$$\frac{-r}{a} \leq m \leq \frac{-r}{b}$$

$$\text{هـ) } 5 = -\frac{b}{a} < 0 \rightarrow \frac{r(m+1)}{m-r} < 0 \rightarrow \frac{-1}{+d} \frac{r}{-g} < 0 \rightarrow -1 < m < r \quad (2)$$

$$P = \frac{c}{a} > 0 \rightarrow \frac{1}{m-r} > 0 \rightarrow m > r \quad (2)$$

$$\text{نقطة: } \emptyset$$

$$\Delta > 0 \rightarrow b^2 - 4ac > 0 \rightarrow [-2(m+1)]^2 - 4(m-r)(1) > 0 \rightarrow 4(m+1)^2 - 4(m-r) > 0$$

$$\rightarrow m^2 + 1 + 2m - 1 - m + r > 0 \rightarrow m^2 - 1m + r > 0$$

$$\Delta = b^2 - 4ac = 4 - 4(1)(r) < 0 \rightarrow \text{شبهه دائري} \quad (9)$$

Arman

ج) $\Delta > 0 \rightarrow b^2 - 4ac > 0 \rightarrow r(m+1)^2 - r(m-r) > 0 \rightarrow r^2 m^2 + 12r^2 m - 16r^2 + 4r^2 > 0$ (3)

$P \cdot \frac{1}{a} < 0 \rightarrow \frac{1}{m-r} < 0 \rightarrow m < r$ (4)

10203 $\rightarrow m = (-1, 2)$

$S = \frac{1}{a} < 0 \rightarrow \frac{r(m+1)}{m-r} < 0 \rightarrow \frac{-1}{+1} \cdot \frac{r}{-r} \rightarrow -1 < 0$ (2)

د) $0 < \sin \alpha < 1$ $\rightarrow m-r < 0 \rightarrow m < r$

ج) $\frac{b}{r_1} = \frac{r}{r_2} \rightarrow b \cdot r_2 = r \cdot r_1 \rightarrow r(m+1) = r(m-r) \rightarrow -m-1 = r_2 m - r \rightarrow r_2 = \frac{m+1}{m}$

$\Delta > 0 \rightarrow b^2 - 4ac > 0 \rightarrow (12 \sin \alpha)^2 - 4 \cdot \frac{r}{r_2} \cdot \frac{r}{r_2} > 0 \rightarrow \sin^2 \alpha > \frac{1}{4} \rightarrow \sin \alpha > \frac{1}{2}$

$-1 < \sin \alpha < 1 \rightarrow \sin \alpha \leq 1 \rightarrow \sin \alpha = 1 \rightarrow \frac{r_2 m^2}{r} - r_2 m + r = 0 \rightarrow r_2 m^2 - 12m + 9 = 0$

$b^2 - 4ac = 144 - 36 = 108 \rightarrow m = \frac{12 \pm \sqrt{108}}{2r_2}$

$\rightarrow \sin \alpha = -1 \rightarrow \frac{r_2 m^2}{r} + r_2 m + r = 0 \rightarrow r_2 m^2 + 12m + 9 = 0 \rightarrow \Delta < 0 \rightarrow m = \frac{-12 \pm \sqrt{144 - 36}}{2r_2}$

$\frac{r_2 m^2 - r_2 m - 1}{r_2 m^2 - r_2 m} \cdot \frac{m-1}{m+1} = \frac{r_2 m^2 - r_2 m - \Delta}{r_2 m^2 + r_2 m} \cdot \frac{m-1}{m-\Delta} \rightarrow y = \frac{(m-1)(r_2 m+1)(m-1)(r_2 m-\Delta)}{(r_2 m)(1-m)}$

$y = -1(r_2 m+1)(r_2 m-\Delta) = -1(4m^2 - 12m + 9 - \Delta) \rightarrow y = -4m^2 + 12m + \Delta$

يُستعمل $y = \frac{-\Delta \pm \sqrt{\Delta^2 - 4ac}}{2a} = \frac{-(144 - 36) \pm \sqrt{(144 - 36)}}{2 \cdot 4} = \frac{108 \pm 10.8}{8}$

٣٥ $AP + V \rightarrow r(-\frac{b}{a}) \cdot \Delta(\frac{r}{a}) + V \rightarrow r(\frac{m+r}{m}) = \Delta(-\frac{r}{m}) + V$

$\rightarrow \frac{r(m+r)}{m} = -1 + \frac{V}{r} \rightarrow r_2 = 14 \rightarrow \boxed{m = 4} \rightarrow r_2 m^2 - 4m - r = 0 \rightarrow 5 = \frac{4}{r_2} \rightarrow P_3 = \frac{4}{5}$

$$\begin{aligned}
 n=2 \rightarrow y_2 &= 2(1)+1=3 \rightarrow 1x = 5a+2b+2x^2 \rightarrow \begin{cases} 5x = 12a+4b+12 \\ 11 = 11a-4b+11 \\ \Delta = 4a+2 \rightarrow \begin{bmatrix} 2a, 2 \\ a, 1 \end{bmatrix} \end{cases} \\
 n=3 \rightarrow y_3 &= -4+1=5 \rightarrow x = 9a-2b+2x^2 \rightarrow \\
 x &= 9(1)-2b+2 \rightarrow 9=2b \rightarrow \boxed{b=3} \\
 y &= n^2+2b+2 \rightarrow -\frac{b}{2a} = \boxed{-\frac{3}{2}}
 \end{aligned}$$

$$2n^2 + (m+1)n + m+4 = n \rightarrow 2n^2 + mn + m+4 = 0 \rightarrow \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = 0$$

$$\rightarrow -m = \frac{0 \pm \sqrt{m^2 - 4(2)(m+4)}}{2} \rightarrow m^2 = m^2 - 16m - 32 \rightarrow 16m = -32 \Rightarrow \boxed{m = -2}$$