

$$y \rightarrow \frac{9x^2 - 12x^2 - 11x^2 + 12x + 9}{1-x^2} \rightarrow -4x^2 + 12x + 9$$

$$\frac{\Delta}{\epsilon a} = \frac{-2\lambda \epsilon}{-2\epsilon} = \frac{2\lambda 9}{2\epsilon} = \frac{9\lambda}{\epsilon}$$

$$\Delta = (12)^2 - 4 \times 9 \times 9 = 144 + 120 = 264$$

$$PS - V = \omega P \Rightarrow \frac{r m + 9 - v m}{m} = -\frac{10}{m} \rightarrow r m + 9 - v m = -10$$

$$S = \frac{m+r}{m} = \frac{9}{\epsilon}$$

$$P = -\frac{v}{m} = -\frac{1}{v}$$

$$a^r + b^r = S^r - rP = \frac{9^r}{19} + 1 = \frac{9^r}{19} + \frac{19}{19} = \frac{9^r + 19}{19}$$

$$aB = r \rightarrow B = \frac{r}{a}$$

$$\frac{r a + B^a}{a B^r} = \frac{r a}{a B^r} + \frac{1}{a} B^r = \frac{r}{a} \frac{a}{B^r} + \frac{1}{a} B^r \rightarrow \frac{1}{a} a^r + \frac{1}{a} B^r = \frac{1}{a} (a^r + B^r)$$

$$\rightarrow \frac{1}{a} (S^r - r s p) = \frac{1}{a} (a^r - r a a x^r) = \frac{1}{a} a^r a = 19$$

$$y = rx + 1 \rightarrow \begin{cases} x: r \rightarrow y = 1 \\ x: -r \rightarrow y = \epsilon \end{cases}$$

$$y = ax^r + bx + c \rightarrow \begin{cases} x: r \rightarrow (a + b + c) = 1 \\ x: -r \rightarrow -a + b - c = \epsilon \end{cases} \rightarrow \begin{cases} a = 1 \\ b = r \\ c = \epsilon \end{cases}$$

$$\text{Slope} = -\frac{b}{ra} = -\frac{r}{r} = -1$$

نقطه تقاطع خط با محورهای مختصات



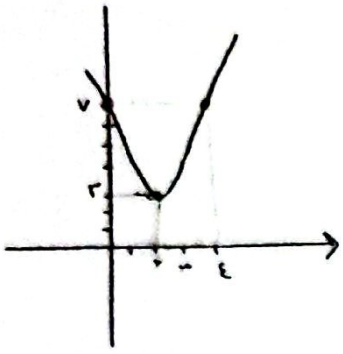
$$\Delta = 0 \rightarrow m^2 - 4m \cdot \epsilon v = 0 \Rightarrow m = 0, \sqrt{4\epsilon v}$$

$$m = 0, \sqrt{4\epsilon v} \rightarrow \begin{cases} m = 0 \\ m = 2\sqrt{\epsilon v} \end{cases}$$

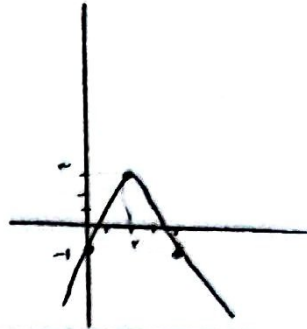
$$m = +1, -1$$

نقطه تقاطع

الف) ۱۰
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ب) ۱۰
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۵

الف) $\Delta > 0 \rightarrow m^2 - 2m - 15 > 0$
 $\begin{array}{c|c|c} -3 & 5 & \\ \hline + & - & + \end{array} \rightarrow m \in (-\infty, -3) \cup (5, \infty)$

ب) $\Delta = 0 \rightarrow m^2 - 2m - 15 = 0$
 $m = 5, m = -3$

ج) $\Delta < 0 \rightarrow m^2 - 2m - 15 < 0$
 $\begin{array}{c|c|c} -3 & 5 & \\ \hline + & - & + \end{array} \Rightarrow -3 < m < 5$

د) $\Delta > 0 \rightarrow m^2 - 2m - 15 > 0$
 $\begin{array}{c|c|c} -3 & 5 & \\ \hline + & - & + \end{array} \Rightarrow m \in (-\infty, -3) \cup (5, \infty)$

الف) $p > 0, s < 0, \Delta > 0$
 $\left. \begin{array}{l} \frac{10}{m-2} > 0 \rightarrow m-2 > 0 \rightarrow m > 2 \\ \frac{2m+2}{m-2} < 0 \rightarrow 2m < 2-m \rightarrow m < -1 \end{array} \right\} \Rightarrow \emptyset$
 $m^2 - 2m + 1 < 0 \rightarrow m^2 - 2m + 1 > 0 \rightarrow \Delta < 0$

ب) $\Delta > 0, p < 0, s < 0$
 $\left. \begin{array}{l} \frac{10}{m-2} < 0 \rightarrow m-2 < 0 \rightarrow m < 2 \\ \frac{2m+2}{m-2} < 0 \rightarrow 2m < 2-m \rightarrow m < -1 \end{array} \right\} \Rightarrow m < -1$
 $s \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow m < -1$

الف) $\Delta > 0, p < 0$
 $\left. \begin{array}{l} m^2 - 2m + 1 > 0 \Rightarrow \mathbb{R} \\ p = \frac{10}{m-2} < 0 \rightarrow m < 2 \end{array} \right\} \Rightarrow m < 2$

ب) $-\frac{b}{2a} = -2$
 $\frac{2m+2}{2m-2} = -2 \rightarrow 2m+2 = -4m+4 \rightarrow 6m = 2 \Rightarrow m = \frac{1}{3}$

$\Delta > 0 \rightarrow (rsina)^2 - 4(\frac{r}{r})(\frac{r}{r}) > 0 \rightarrow rsina > 2 \Rightarrow sina > 1$ ①
 $s > 0 \rightarrow \frac{rsina}{r} > 0 \rightarrow rsina > 0 \rightarrow sina > 0$ ②
 $p > 0 \rightarrow \frac{r}{r} > 0 \rightarrow \frac{q}{r} > 0$

$\Rightarrow \frac{r}{r}x^2 - 2x + \frac{r}{r} = 0 \rightarrow x = \frac{b}{2a}$
 $\Delta = 0$ پس $-\frac{b}{2a}$