

$$y \rightarrow \frac{9x^2 - 12x^2 - 11x^2 + 12x + 0}{1-x^2} \rightarrow -4x^2 + 12x + 0$$

$$\frac{\Delta}{\epsilon a} = \frac{-2\lambda \epsilon}{-2\epsilon} = \frac{2\lambda \epsilon}{2\epsilon} = \frac{\sqrt{1}}{1}$$

$$\Delta = (12)^2 - 4 \times 0 = 144 + 120 = 264$$

$$\mu S - V = \omega P \Rightarrow \frac{\mu m + 9 - \sqrt{m}}{m} = -\frac{10}{m} \rightarrow \mu m + 9 - \sqrt{m} = -10$$

$$S = \frac{m+1}{m} = \frac{9}{\epsilon}$$

$$P = -\frac{1}{m} = -\frac{1}{9}$$

$$a^r + b^r = S^r - 2P = \frac{729}{19} + 1 = \frac{748}{19} = \frac{12^2}{19}$$

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

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

$$\rightarrow \frac{1}{a} (S^r - r\alpha\beta^r) = \frac{1}{a} (\alpha^r - r\alpha\beta^r) = \frac{1}{a} \alpha^r \beta^r = 19$$

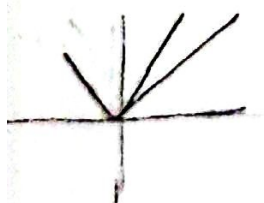
$$y = rx + 1 \rightarrow \begin{cases} x = r \rightarrow y = 18 \\ x = -r \rightarrow y = 8 \end{cases}$$

$$y = ax^2 + bx + c \rightarrow \begin{cases} x = r \rightarrow (a+b+c) = 18 \\ x = -r \rightarrow (a-b+c) = 8 \end{cases} \rightarrow \begin{cases} a = 1 \\ b = r \\ c = 8 \end{cases}$$

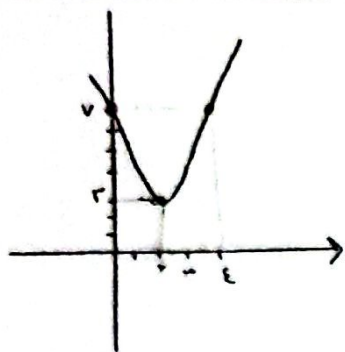
$$\text{Slope} = -\frac{b}{2a} = -\frac{r}{2}$$

$$\Delta = 0 \rightarrow m^2 - 4m \cdot \epsilon \sqrt{15} = 0 \Rightarrow m = 4\sqrt{15} \text{ or } m = 0$$

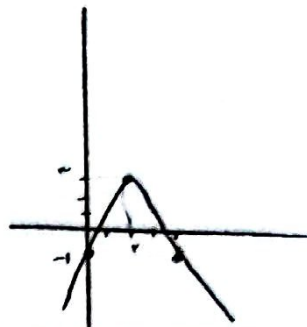
$$x_2 = \frac{b}{2a} = \frac{m-1}{2} \rightarrow x_2 > 0 \rightarrow m < -1$$



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الف) $\Delta > 0 \rightarrow m^2 - 2m - 15 > 0$

$\frac{-2 \pm 5}{2} \rightarrow m \in (-\infty, -3) \cup (5, \infty)$

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

ج) $\Delta < 0 \rightarrow m^2 - 2m - 15 < 0$
 $\Rightarrow -3 < m < 5$

د) $\Delta > 0 \rightarrow m^2 - 2m - 15 > 0$

$\frac{-2 \pm 5}{2} \Rightarrow m \in (-\infty, -3) \cup (5, \infty)$

الف) $p > 0, s < 0, \Delta > 0$

$\frac{10}{m-2} > 0 \rightarrow m-2 > 0 \rightarrow m > 2$
 $\frac{2m+2}{m-2} < 0 \rightarrow 2m < 2-m \rightarrow m < -1$
 $\Rightarrow \emptyset$

$m^2 - 2m - 15 > 0 \rightarrow m^2 - 2m + 1 > 0 \rightarrow \Delta < 0$

ب) $\Delta > 0, p < 0, s < 0$

$\frac{10}{m-2} < 0 \rightarrow m-2 < 0 \rightarrow m < 2$
 $\frac{2m+2}{m-2} < 0 \rightarrow 2m < 2-m \rightarrow m < -1$
 $\Rightarrow m < -1$

الف) $\Delta > 0, p < 0$

$m^2 - 2m + 1 > 0 \Rightarrow \mathbb{R}$
 $p = \frac{10}{m-2} < 0 \rightarrow m < 2$
 $\Rightarrow m < 2$

ب) $-\frac{b}{2a} = -2$

$\frac{2m+2}{2m-2} = -2 \rightarrow 2m+2 = -4m+4$

$\Rightarrow 4m = 2 \Rightarrow m = \frac{1}{2}$

$\Delta > 0 \rightarrow (rsina)^2 - 2(\frac{r}{r})(\frac{r}{r}) > 0 \rightarrow rsina > 1 \Rightarrow sina > \frac{1}{r}$ (۱)

$s > 0 \rightarrow \frac{rsina}{r} > 0 \rightarrow rsina > 0 \rightarrow sina > 0$ (۲)

$p > 0 \rightarrow \frac{r}{r} > 0 \rightarrow \frac{q}{r} > 0$

$\Rightarrow \frac{r}{r}x^2 - 2x + \frac{r}{r} = 0 \rightarrow x = \frac{1}{r}$

$\Delta = 0 \Rightarrow \frac{b^2}{4a} = 0$