

$y = -2x^2 - 5x + 1$

a > 0
min U

ext | $\frac{-b}{2a} = \frac{-(-5)}{2(-2)} = 0$

$\frac{-\Delta}{4a} = \frac{-(b^2 - 4ac)}{4a} = -\frac{(25 - 4(-2)(1))}{-8} = \frac{33}{8}$

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

a < 0
max A

ext | $\frac{-b}{2a} = \frac{-3}{2(-2)} = \frac{3}{4}$

$\frac{-\Delta}{4a} = \frac{-(b^2 - 4ac)}{4a} = \frac{-9 - 4(-2)(-2)}{-8} = \frac{-1}{8}$

$y = x^2 - 4x + 1$

ext | $\frac{y}{x} = 1$
 $\frac{-\Delta}{4a} = -1$



$y = -x^2 + 5x + 1$

ext | $\frac{y}{x} = 2$

$\frac{(b^2 - 4ac)}{4a} = \frac{25 - 4(-1)(1)}{-4} = 6$



$f(x^3) + kx - 9x - 2 = 0$

$f(x^3) + kx - 11 - 2 = 0$

$f(\beta^3) + k\beta - 9\beta - 2 = 0$

$f(-1)^3 + k + 9 - 2 = 0 \rightarrow k = -8$

$\alpha + \beta = 1 \quad 2x^2 - 5x + 1 = 0$

$\alpha\beta = -2 \quad 2x^2 - 12x - 2 = 0$

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

$\sqrt{\alpha} - \sqrt{\beta} = 1$

$2x^2 + mx - 1 = 0$

$p = ?$

$p = m$

$s = \frac{-b}{a} = \frac{-m}{1} = -m$

$2m - 2m = 1$
 $m = 1$

$2x^2 + x - 1$

$x^2 + \frac{x}{2} - \frac{1}{2} = p = -\frac{1}{4}$

$(\sqrt{\alpha} - \sqrt{\beta})^2 = \alpha + \beta - 2\sqrt{\alpha\beta} = 1$

$\frac{-b}{2a} = \frac{m}{2}$

$x - m - 2 + m = 0$

$x = 1$
 $x = \frac{c}{a} = \frac{m}{2}$

المعادلات $x=0$ بالبرهان والقطع

$y = 0 + 0 + m$

$y = m$

$s = m \times (\frac{m}{2} - 1) = \frac{m^2}{2} - m$

$m(\frac{m}{2} - 1) = \frac{m^2}{2} - m$

$m^2 - 2m - 2 = 0 \rightarrow (m-2)(m+1) = 0$

$y = x^2 - 2x + 1$

$s = \frac{m}{2}$

$y = x^2 + x + 1 =$

$s = -\frac{1}{2}$

$$\frac{-\Delta}{\pm a} = \frac{v}{\lambda} \quad \frac{-(-9 - \epsilon(a)(a))}{\pm a} = \frac{v}{\lambda}$$

$$\frac{-9 + \epsilon a^2}{\pm a} = \frac{v}{\lambda} \quad \lambda a^2 - 1 \lambda = v a \quad \text{PC. } a) \text{ } \frac{1}{\epsilon} a \text{ } 0.0\%$$

$$\lambda a^2 - v a - 1 \lambda = 0 \quad \begin{matrix} \uparrow \\ \text{جواب مثبت} \\ \downarrow \\ \text{جواب منفي} \end{matrix} \quad \begin{matrix} \uparrow \\ \text{جواب} \\ \downarrow \\ \text{جواب} \end{matrix}$$

$$\lambda^2 - (a+1)\lambda + a = 0$$

$$1 - a - 1 + a = 0$$

$$\lambda_1 = 1$$

$$\frac{c}{a} \rightarrow \lambda = a \rightarrow \text{Ⓜ} \rightarrow \lambda^2 - \left(\frac{v}{\lambda} + 1\right)\lambda + b = 0 \quad 4 \times \epsilon - v = \text{Ⓜ}$$

$$\lambda^2 - 10\lambda + b = 0 \quad \begin{matrix} y_1 = 5 \\ y_2 = 2 \end{matrix}$$

$$S = 10$$

$$y_1 = -a\lambda^2 + a\lambda + v \rightarrow \frac{-a}{-2a} = \frac{1}{2} \quad \frac{-9}{\epsilon} + \frac{9}{\epsilon} + v = \frac{a}{\epsilon} + v \quad \frac{1}{\epsilon}$$

$$y_2 = v b \lambda^2 - b \lambda - 1 \rightarrow \frac{b}{2a} = \frac{1}{2} \quad y_2 = \frac{b}{\lambda} - \frac{b}{\epsilon} - 1 = -1 - \frac{b}{\lambda} \rightarrow \frac{1}{\epsilon} - \frac{b}{\lambda} - 1$$

$$y_2 = v b \left(\frac{1}{\epsilon}\right)^2 - \frac{b}{\epsilon} - 1 = \frac{a}{\epsilon} + v \rightarrow \frac{a}{\epsilon} = -v \quad a = -v$$

$$y_1 = -a\left(\frac{1}{\epsilon}\right)^2 + \frac{a}{\epsilon} + v = \frac{-b}{\lambda} - 1 \rightarrow \frac{-b}{\lambda} = \frac{v a}{1\epsilon} + v \frac{v}{\epsilon} \quad b = -v$$

$$-9 + 10 = \text{Ⓜ}$$

$$y = \lambda a \alpha^2 + \epsilon \lambda + \beta = 0$$

$$\alpha + \beta = -\frac{\epsilon}{\lambda a} = -\frac{b}{a}$$

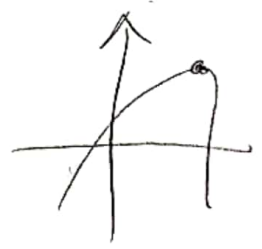
$$\alpha \beta = \frac{c}{a} = \frac{\beta}{\lambda a}$$

$$\alpha \beta = \frac{\beta}{\lambda a} \rightarrow \alpha = \frac{1}{\lambda a} \rightarrow \lambda a \alpha^2 = 1 \quad \alpha = \pm \frac{1}{\lambda a}$$

$$\beta = -\frac{\epsilon}{\lambda a} - \alpha \rightarrow \alpha = \frac{1}{\lambda a} \quad \begin{matrix} \text{جواب} \\ \text{مثبت} \\ \text{جواب} \\ \text{منفي} \end{matrix}$$

$$\beta = \frac{\epsilon}{\lambda a} + \frac{1}{\lambda a} = \text{Ⓜ}$$

$$\lambda a \alpha < 0 \quad \beta = 1 \quad \alpha = -\frac{1}{\lambda a}$$



$$S = \frac{-b}{a} \quad S = a^2 + b^2 - 12 = ((a+b)^2 - 2ab) - 12 = S^2 - 2P - 12$$

$$P = S - 1$$

$$S^2 - 2(S-1) - 12 = S$$

$$S^2 - 2S - 10 = 0$$

$$(S-5)(S+3) = 10$$