

لبنان ابراهيم - تلميذ - ١٣٠٠ - ١٣٠٠ - ١٣٠٠

$$y = (a-1)x^2 + x + 2 \quad x=2$$

$$\frac{-b}{2a} = 2 \quad \frac{-1}{2(a-1)} = 2 \quad 2a-2 = -1 \quad 2a = 1 \quad a = \frac{1}{2}$$

$$0 = -\frac{1}{2}x^2 + x + 2 \rightarrow x = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-1 \pm \sqrt{1 - 4(-\frac{1}{2})(2)}}{2(-\frac{1}{2})} = \frac{-1 \pm \sqrt{1+4}}{-1} = \frac{-1 \pm \sqrt{5}}{-1}$$

$$\rightarrow \frac{-1+2}{-1} = \frac{1}{-1} = -1 \quad x$$

$$\rightarrow \frac{-1-2}{-1} = \frac{-3}{-1} = 3 \quad \checkmark$$

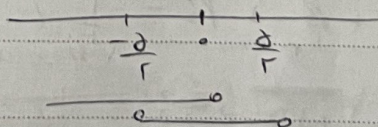
$$f(x) = mx^2 - 2x + m$$

$$\Delta = 4 - 4m^2 < 0 \quad \begin{array}{c|cc} x & x_1 & x_2 \\ \hline f(x) & b+b & - \end{array}$$

$$b^2 - 4ac < 0 \rightarrow b^2 - 4m^2 < 0 \rightarrow 2m < 2 \rightarrow m < 1$$

$$\frac{2m}{2} < 1 \rightarrow m < 1$$

$$1 \cap 2 \rightarrow \boxed{-\frac{1}{2} < m < 1}$$



$$S = \frac{3-\sqrt{5}}{2} + \frac{3+\sqrt{5}}{2} = \frac{6}{2} = 3$$

$$P = \frac{(3-\sqrt{5})(3+\sqrt{5})}{4} = \frac{9-5}{4} = \frac{4}{4} = 1$$

$$x^2 - 5x + 6$$

$$y = x^2 - 5x + 6$$

$$y = 9x^2 - 18x + 9 = 9(x^2 - 2x + 1) = 9(x-1)^2$$

Date:

Sub:

$$r\alpha^r - \lambda x + m + r = 0 \quad r\alpha^r + \beta^r = 1r$$

$$S = \frac{\lambda}{r} \quad \alpha + \beta = \varepsilon \rightarrow \beta = \varepsilon - \alpha$$

$$r\alpha^r + (\varepsilon - \alpha)^r = 1r$$

$$r\alpha^r + 1r + \alpha^r - \lambda\alpha = 1r$$

$$\varepsilon\alpha^r - \lambda\alpha + \varepsilon = 0$$

$$m = \varepsilon$$

$$\alpha^r - r\alpha + 1 = 0 \rightarrow \alpha = 1$$

$$S(r, q)$$

$$y = a(x-r)^r + q$$

$$\varepsilon a + q = 0 \rightarrow a = -1$$

$$-(x-r)^r + q > 0$$

$$(x-r)^r + q < 0$$

$$x^r + \varepsilon - \varepsilon x - q < 0$$

$$x^r - \varepsilon x - 0 < 0 \rightarrow (x-0)(x+1) < 0$$

$$-1 + 0$$

$$+1 - 0 +$$

$$x = 0$$

$$x = -1$$

$$(-1, 0)$$

$$a x^r - v x + q \beta = 0 \quad \frac{1}{\alpha} + \frac{1}{\beta} =$$

$$P \Rightarrow \alpha \beta = \frac{q \beta}{\alpha} \quad \alpha^r \beta = q \beta \rightarrow \alpha^r = q \rightarrow \alpha = \pm r$$

$$S = \alpha + \beta = \frac{v}{\alpha}$$

$$\alpha = +r \rightarrow \frac{v}{r} = r + \beta \rightarrow \beta = -\frac{r}{r} x$$

$$\checkmark \alpha = -r \rightarrow -\frac{v}{r} = -r + \beta \rightarrow \beta = \frac{r}{r} \checkmark$$

$$-\frac{1}{r} + \frac{r}{r} = \left(\frac{v}{r}\right)$$

$$x^r + mx - r m = 0 \quad \alpha^r - m\beta = 1 \quad \text{--- V}$$

$$\beta^r + m\beta - r m = 0 \rightarrow \beta^r - r m = -m\beta$$

$$\alpha^r - m\beta = 1 \rightarrow \underbrace{\alpha^r + \beta^r}_{s^r - r p} - r m = 1 \rightarrow \alpha^r + \beta^r - r m - 1 = 0 \rightarrow$$

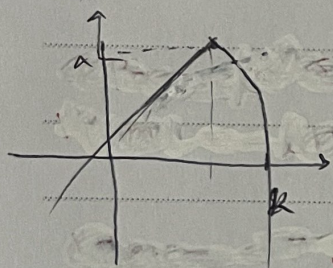
$$m^2 + r m - 1 = 0 \quad (m + r)(m - r) = 0$$

$$m = -r, +r$$

$$m = r \rightarrow x^r - r x + 1 = 0 \rightarrow \Delta < 0, \text{ no real roots}$$

$$m = -r \rightarrow x^r + r x - r = 0 \rightarrow S = -\frac{b}{r a} = \boxed{-1}$$

$$f(x) = m x^r + \varepsilon x + \frac{m}{r} + V \quad \text{--- 1}$$



$$-\frac{\Delta}{4a} = 1$$

$$-\Delta = 4a$$

$$-(14 - \varepsilon(m))\left(\frac{m}{r} + V\right) = 4r m$$

$$-14 + r m^2 + r \varepsilon m = 4r m$$

$$r m^2 - \varepsilon m - 14 = 0$$

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

$$(m - r)(m + r) = 0 \quad \begin{cases} m = r \\ m = -r \end{cases}$$

$$-r x^r + \varepsilon x + r = 0$$

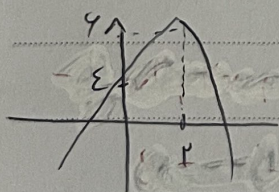
$$x^r - r x - r = 0$$

$$(x - r)(x + r) = 0$$

$$x = r, \checkmark$$

$$x = -r \times$$

$$\boxed{x = r}$$



$$y = a(x - r)^2 + q$$

$$\varepsilon a + q = \varepsilon \rightarrow \varepsilon a = -r \rightarrow a = -\frac{r}{\varepsilon}$$

$$-\frac{1}{\varepsilon}(x^r - \varepsilon x + \varepsilon) + q \Rightarrow -\frac{1}{\varepsilon}x^r + r x - r + q \Rightarrow -\frac{1}{\varepsilon}x^r + r x + \varepsilon \Rightarrow x^r + \varepsilon x + 1$$

$$\frac{1}{\alpha} + \frac{1}{\beta} \Rightarrow \frac{\alpha + \beta}{\alpha\beta} \rightarrow \frac{\varepsilon}{-1} = \boxed{-\frac{r}{\varepsilon}}$$

$$x^r - (\varepsilon a + \varepsilon)x + (ra^r + qa + r) = 0 \quad \text{--- 10}$$

$$x = r, \varepsilon - 1a - 1 + ra^r + qa + r = 0 \quad ra^r - ra - 1 = 0 \quad \checkmark, a^r - ra - r = 0$$

$$a = 1 \rightarrow x^r - 1x + 1r = 0 \quad (m - 4)(m - 1) = 0 \quad m = 4$$

$$(a - r)(a + 1) = 0$$

$$a = \frac{r}{r} = 1 \quad a = -\frac{1}{r}$$

$$a = -\frac{1}{r} \rightarrow x^r - \frac{1}{r}x + \frac{\varepsilon}{r} = 0$$

$$\frac{1}{r} \pm \sqrt{\frac{4\varepsilon}{r} - \varepsilon\left(\frac{\varepsilon}{r}\right)}$$

$$\rightarrow \frac{1}{r} \pm \frac{\varepsilon}{r}$$

$$\frac{\varepsilon}{r} = r$$

$$\frac{\varepsilon}{r} = \boxed{\frac{r}{r}}$$

$$\boxed{x = 4, \frac{r}{r}}$$