

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

①

$$\frac{-\Delta}{2a} = V \rightarrow \frac{b^2 - 4(-1)(3)}{-2(-1)} = \frac{b^2 + 12}{2} = V$$

$$b^2 + 12 = 28 \quad b^2 = 16 \Rightarrow b = \pm 4$$

②

$$a) f(x) = x^2 + 2x + 3 \quad x^2 + 2x + 3 = 0$$

جواب ندارد. $\Delta = 4 - 12 < 0$

$$b) f(x) = (x-2)^2 - 2(x-2) - 1 = 0$$

$$x^2 - 2x - 1 = 0 \quad (x-2)(x+3) = 0 \quad x = \begin{cases} 2 \\ -3 \end{cases}$$

$$x-2 = 2 \rightarrow x = 4 \rightarrow \text{جواب ندارد}$$

$$x-2 = -3 \rightarrow x = -1 \rightarrow x = \pm \sqrt{5}$$

$$x^2 - 1 = 0 \Rightarrow x = \pm 1$$

③

$$B = \alpha + 2 \quad p = \frac{m}{r} = (\alpha)(\alpha + 2) = \alpha^2 + 2\alpha = 3$$

$$S \rightarrow \frac{1}{r} = 2 = 2\alpha + 2 \quad m = 12$$

$$2\alpha = 2 \Rightarrow \alpha = 1$$

$$x^2 - 1 = 0 \Rightarrow \Delta = (1)^2 - 4(1)(-1) > 0 \checkmark$$

④

$$3x^2 - 9x + m - 1 = 0 \quad 2\alpha - B = 2$$

$$S = \frac{9}{r} = 2 = \frac{B+2}{r} + B = \frac{3B+2}{r} \quad \alpha = 2+B \Rightarrow \alpha = \frac{B+2}{r}$$

$$\hookrightarrow \frac{3(2)+2}{2} = 2 = \alpha$$

$$\Rightarrow 2 = 2B + 2 \Rightarrow 2B = 0 \Rightarrow B = 0$$

$$\alpha B = 0 \Rightarrow \frac{m-1}{r} = 0 \Rightarrow m = 1$$

$$y = 3x^2 - 9x \quad \Delta > 0 \checkmark$$

⑤

$$-mx^2 + rx + m - 2 = 0$$

$$B = \frac{1}{\alpha} \quad p = 1 \rightarrow \frac{m^2 - r}{-m} = 1 \quad m^2 - r = -m \Rightarrow m^2 + m - r = 0$$

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

$$m = -2 \rightarrow 2x^2 + rx + 2 = 0 \rightarrow \Delta = 0 \rightarrow \text{ریشه متساوی ندارد}$$

$$m = 1 \rightarrow -x^2 + rx - 1 = 0 \rightarrow p = 1 \Rightarrow m = 1$$

$$x^r - mx + r = 0$$

$$\alpha B^r = r$$

$$B = \frac{r}{r}$$

$$\alpha B = \frac{r}{r} = r$$

$$(\alpha B) B$$

$$\Rightarrow \alpha = \frac{1}{r}$$

$$\alpha + \beta = \frac{1}{r} + \frac{r}{r} = \frac{1+r+1}{r}$$

$$\Delta = \left(\frac{r}{r}\right)^2 - r(r)$$

$$m = \frac{r}{r}$$

$$= \frac{1}{r} - r > 0 \checkmark$$

$$x^r - rx + m = 0$$

$$\beta = r\alpha$$

$$S \leq E \quad P \leq m$$

$$r\alpha + \alpha = r$$

$$r\alpha = r \Rightarrow \alpha = 1, \beta = r$$

$$\alpha\beta = 1 \times r = r = m$$

$$\Delta = 1 - r(r) > 0 \checkmark$$

$$x^r - vx + r = 0$$

$$S = V \quad P = r$$

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

$$VA(r) = P_0$$

$$S^r - r = r(1 - r)$$

$$h(t) = -10t^r + a_0t$$

$$10t(a-t) = 0$$

$$0 \leq t \leq a, \quad t = a$$

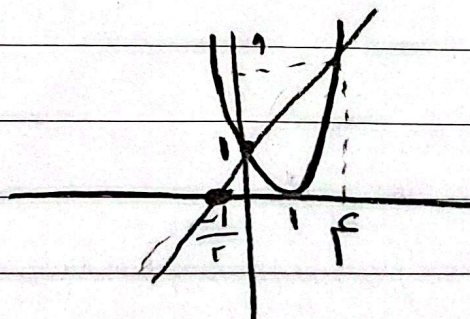
$$man \rightarrow \frac{-b}{2a} = \frac{-a_0}{-20} = \frac{a}{r}$$

$$\rightarrow -10\left(\frac{a}{r}\right)^r + a_0 \times \left(\frac{a}{r}\right) = \frac{-10a + 2a_0}{r} = \frac{-10a}{r} = -9\frac{a}{r}$$

$$Q1). (x-1)^r = |x+1|$$

$$\hookrightarrow \frac{x}{y} = \frac{1}{0} = \frac{1}{0}$$

$$x = 0, r$$



$$Q2). x^r + rx = |x+r|$$

$$x = -r, 1$$

