

پہلیان باقری / تالیف شماره ۱ / لاسی دهم دختر A

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۱

الف) $y = 3x^2 - 2x$



ناحیه سوم

ext: $\left| \begin{array}{l} \frac{1}{3} \\ \frac{1}{3} \end{array} \right.$

ب) $y = -x^2 + 2x$

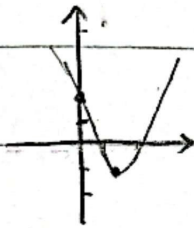


ناحیه دوم

ext: $\left| \begin{array}{l} 2 \\ 2 \end{array} \right.$

۲

الف) $y = 2x^2 - 5x + 2$



ناحیه اول و دوم و چهارم

ext: $\left| \begin{array}{l} \frac{5}{4} \\ \frac{9}{8} \end{array} \right.$

ب) $y = -x^2 + 2x - 1$



ناحیه اول و سوم و چهارم

ext: $\left| \begin{array}{l} 2 \\ 3 \end{array} \right.$

$$x^2 - x - 3 = 0$$

10

$$\text{الف) } \frac{\alpha + \beta}{\alpha - \beta} = \frac{1}{\sqrt{13}} = \frac{\sqrt{13}}{13}$$

$$\text{ب) } \alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta = 1 + 4 = 5$$

$$\text{ج) } \alpha^3 + \beta^3 = (\alpha + \beta)^3 - 3\alpha\beta(\alpha + \beta) = 1 + 4 = 5$$

$$\text{د) } \alpha^3 - \beta^3 = (\alpha - \beta)(\alpha^2 + \alpha\beta + \beta^2) = \sqrt{13}$$

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

11

$$x = r$$

$$\text{① } \Delta < 0 \rightarrow a^2 - 4a < 0 \rightarrow 0 < a < 4$$

$$\text{② } (x - r)^2 = x^2 - 2rx + r^2 \rightarrow a = 2r$$

$$0 < a < 4$$

$$\begin{array}{c} \cdot \quad r \\ \hline + \quad - \quad + \end{array}$$

12

$$\alpha + \beta = K \quad \alpha\beta = \frac{-a}{r^2} \quad \alpha^r + \beta^r = 14 + \frac{r a}{r^2}$$



$$r\alpha^r + r\beta^r - r\alpha = V \Rightarrow (\alpha - r)\alpha^r + \underbrace{\alpha^r + \beta^r}_{14 + \frac{r a}{r^2}} = 11$$

$$r\alpha + r\beta$$

$$\alpha^r + r - r\alpha + r\alpha + r\beta + \frac{r a}{r^2} = 11 \Rightarrow \alpha^r - \alpha\beta + \beta^r = V$$

$-\alpha\beta$

$$14 + \frac{r a}{r^2} + \frac{a}{r^2} = V \Rightarrow \boxed{a = -9}$$

$$r^2 x^r - 1r + 9 = 0$$

$$(x-9)(x-3) = 0 \rightarrow x = \frac{9}{r^2} = r^2 = 3$$

$$\rightarrow x = \frac{r^2}{r^2} = 1 = 1$$

$$\frac{a}{b} = \frac{-9}{r^2} = -r^2$$

$$b = \frac{r^2 a + r^2 + V - r^2 a}{r} = d \quad \sim \quad s: \begin{vmatrix} d \\ r^2 \end{vmatrix}$$

4

$$\left. \begin{array}{l} a - r^2 > 1 \sim a > r^2, a \in \mathbb{N} \\ V - r^2 a > 1 \sim a < r^2, a \in \mathbb{N} \\ r^2 a + r^2 > 1 \sim a > -r, a \in \mathbb{N} \end{array} \right\} a = r^2$$

$$A = \begin{vmatrix} 9 \\ 1 \end{vmatrix}, \quad B = \begin{vmatrix} 1 \\ 1 \end{vmatrix}$$

$$-1' y = a' (x - d) r^2 + r^2$$

$$1 = a' (9 - d) r^2 + r^2 \rightarrow a' = \frac{-1}{r^2}$$

$$\frac{-b'}{r a'} = d \sim -b' = d r a' \sim b' = \frac{1}{r} = \frac{d}{r}$$

$$1 = \frac{-1}{r^2} + \frac{d}{r} + c' \sim c' = \frac{-1}{r^2}$$

$$y = \frac{-1}{r^2} x^r + \frac{d}{r} x - \frac{1}{r^2} \quad \sim \quad |c'| = \frac{1}{r^2}$$

$$ax^r - ax - b = 0$$

V

$$\alpha + \beta = 1, \quad \alpha\beta = -\frac{b}{a}, \quad a\beta^r - a\beta - b = 0 \Rightarrow \beta^r - \beta = \frac{b}{a}$$

$$r_0 (\underbrace{r\beta^r + \alpha^r - \beta}_1) = 1V$$

$$\Rightarrow r_0 (1 + \frac{r^r b}{a}) = 1V$$

$$\frac{b}{a} + \alpha^r + \beta^r$$

$$\frac{r_0 b}{a} = 1$$

$$s^r \cdot rP = 1 + \frac{r^r b}{a}$$

$$a = -r_0 b$$

$$|\alpha - \beta| = \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{a^2 + 4ab}}{|a|} = \frac{\sqrt{r_0^2 b^2 - 4r_0 b^2}}{|a|} = \frac{1\sqrt{a} \times b}{1 - r_0 b} =$$

$$\frac{1\sqrt{a} \times b}{r_0 b} = \frac{r\sqrt{a}}{a}$$

$$\frac{r}{r} = \frac{r}{r} \Rightarrow \frac{-b}{ra} = \frac{r-d}{r} = -1 \quad \left| \begin{array}{l} +r \\ -\frac{1}{r} \end{array} \right., \quad \left| \begin{array}{l} 0 \\ \frac{r}{r} \end{array} \right.$$

$$\hookrightarrow b = ra$$

A

$$y = ax^r + \frac{bx}{ra} + \frac{r}{r}$$

$$-\frac{1}{r} = -ra - 1a + \frac{r}{r} \Rightarrow a = \frac{1}{r} \Rightarrow b = r$$

$$y = \frac{1}{r} x^r + rx + \frac{r}{r} \Rightarrow \beta = \frac{1}{r} + r + \frac{r}{r} = r$$

9

$$\alpha + \beta = -4, \quad \alpha\beta = a$$

$$\Delta = 16 - 4a \rightarrow \frac{-4 \pm \sqrt{16 - 4a}}{2} = -2 \pm \sqrt{4 - a}$$

$$-2 - \sqrt{4 - a} = \alpha, \quad -2 + \sqrt{4 - a} = \beta$$

$$3\alpha^2 + 2\beta^2 = 2(\alpha^2 + \beta^2) + \alpha^2 = 40 - 2a + 4\sqrt{4 - a}$$

$$34 - 2a \quad (-2 - \sqrt{4 - a})^2 = 4 + 4 - a + 4\sqrt{4 - a}$$

$$40 - 2a + 4\sqrt{4 - a} = 12 + 12\sqrt{4 - a}$$

$$2a = 28 \rightarrow a = 14$$

$$\sqrt{\frac{1}{\alpha}} + \sqrt{\frac{1}{\beta}} = d \rightarrow \frac{\sqrt{\alpha} + \sqrt{\beta}}{\sqrt{\alpha\beta}} = d$$

$$(\alpha\beta = \frac{1}{14})$$

$$\rightarrow \frac{1}{\sqrt{\alpha\beta}}$$

$$\sqrt{\alpha} + \sqrt{\beta} = \frac{d}{\sqrt{\alpha\beta}}$$

$$\alpha + \beta + \frac{1}{\sqrt{\alpha\beta}} = \frac{2d}{\sqrt{\alpha\beta}} \rightarrow \alpha + \beta = \frac{14}{14}$$

$$\frac{m+14}{14} = \frac{14}{14} \rightarrow m = -1$$

$$y = -x^2 + 14x + 1 \rightarrow \frac{c}{a} = -1$$