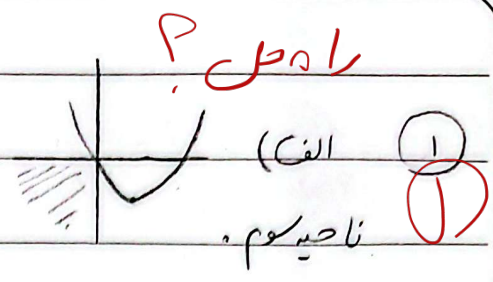
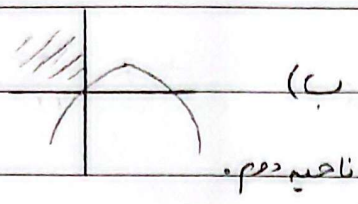
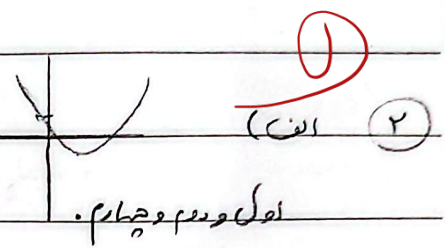
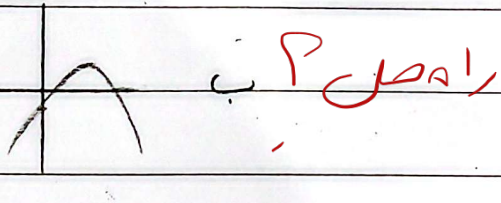


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اصل P



اول و دوم و چهارم.

اول و دوم و چهارم.

$S = 1 \quad P = -3$

(الف) $\frac{S}{\frac{\sqrt{\Delta}}{|a|}} = \frac{1}{\frac{\sqrt{13}}{1}} = \frac{1}{\sqrt{13}} = \frac{1}{\sqrt{13}}$

(ب) $S^2 - 2P = 1 + 6 = 7$

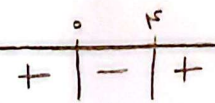
(ج) $S^3 - 3PS = 1 + 9 = 10$

(د) $(\alpha - \beta)^3 + 3\alpha\beta(\alpha - \beta) = 13\sqrt{13} - 9\sqrt{13} = 4\sqrt{13}$

$(\alpha - 2) = 0 \rightarrow \alpha = 2$ ← برتقله

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$(x^2 - \alpha x + \alpha) \rightarrow$ نباید محور xها قطع کند $\rightarrow \Delta < 0 \rightarrow \alpha^2 - 4\alpha < 0$



$x = 2 \rightarrow (x - 2)^2 = x^2 - 4x + 4$

$\alpha = (0, 4)$ I

$I \cup II = (0, 4)$

$\alpha = \Sigma II$



$$\alpha + \beta = 1 \rightarrow \beta = 1 - \alpha$$

$$2\alpha^2 + 1\alpha + \alpha^2 - 1\alpha - 1\alpha = 1 \rightarrow 3\alpha^2 - 1\alpha + 1 = 0$$

$\alpha \rightarrow$ (1), $\beta = 1$
 $\alpha \rightarrow$ (3), $\beta = 1$

$$3(x-1)(x-1) = 0 \rightarrow 3(x^2 - 2x + 1) = 0 \rightarrow 3x^2 - 6x + 3 = 0$$

$$\alpha = -1$$

$$\frac{-1}{3} = \left[\frac{-1}{3} \right]$$

$$C = f \quad ax^2 + bx + C = x$$

$$\text{Comparing } ax = \frac{-b}{2a} = b \rightarrow 2a = -1$$

$$\alpha = \left[\frac{-1}{2} \right]$$

B, A (constant) $\rightarrow B\left(\frac{1}{2}, \frac{1}{2}\right) \rightarrow A\left(\frac{1}{2}, \frac{1}{2}\right)$

$$\text{Gradient} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{1}{1} = 1$$

$$\text{So } b = 1$$

$$\frac{1}{2}(1) + 1 + C = 1$$

$$C = 1 - 1 = 0$$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{1}{1}$$

$$\alpha + \beta = 1 \rightarrow \alpha = 1 - \beta \rightarrow \alpha^2 = 1 + \beta^2 - 2\beta$$

$$2\alpha^2 + \alpha + \alpha^2 - 1\alpha - 1\alpha = 1 \rightarrow 3\alpha^2 - 1\alpha + 1 = 1$$

$$1 + \beta^2 - 2\beta$$

$$3\alpha^2 - 1\alpha + 1 = 1$$

$$3\alpha^2 - 1\alpha = 0$$

$$A = 100 - 10 = 90$$

$$B \rightarrow \frac{10 + \sqrt{5}}{10}$$

$$B \rightarrow \frac{10 - \sqrt{5}}{10}$$

$$\alpha - \beta = \frac{10 + \sqrt{5} - 10 - \sqrt{5}}{10} = \left[\frac{-2\sqrt{5}}{10} \right]$$

$$\text{Sum of roots} = \frac{-a+1}{2} = \frac{-2}{2} = -1 \quad \text{and} \quad \text{Prod. } y = \frac{-1}{2}$$
1

$$\alpha x^2 + bx + \frac{3}{4} = x \rightarrow 2a - 2b + \frac{3}{4} = -1$$

$$2a - 1a = -2 \rightarrow a = \frac{1}{2}$$

$$+2a = 2 \rightarrow \boxed{a = \frac{1}{2}} \quad \text{and} \quad \boxed{b = 2}$$

$$\frac{1}{2}x^2 + 2x + \frac{3}{4} = x \xrightarrow{\text{جانبی}} \frac{1}{2} + 2 + \frac{3}{4} = \boxed{5} = \beta$$

$$\alpha + \beta = -5 \rightarrow \alpha = -5 - \beta \rightarrow \alpha^2 = 25 + \beta^2 + 10\beta \quad \text{(9)}$$

$$10\alpha + 4\beta^2 + 25\beta + 2\beta^2 = 12\sqrt{2} + 18 \rightarrow 2\beta^2 + 25\beta + 23 - 12\sqrt{2} = 0$$

$\beta = -3 + 2\sqrt{2}$

$\alpha = -3 - 2\sqrt{2}$

$$\alpha = \text{ضرب} = (-3 - 2\sqrt{2})(-3 + 2\sqrt{2}) = 9 - 8 = \boxed{1}$$

$$\frac{1}{\sqrt{\alpha}} + \frac{1}{\sqrt{\beta}} = \left(\frac{\sqrt{\alpha} + \sqrt{\beta}}{\sqrt{\alpha\beta}} \right)^2 = \frac{\alpha + \beta + \sqrt{4\alpha\beta}}{\alpha\beta} = 8 \quad \text{(10)}$$

$$\text{So } \alpha + \beta = \frac{m+14}{25} \quad \text{and} \quad \frac{1}{25} = \alpha\beta$$

$$\frac{m+14+5}{25} = m+10 = 8 \rightarrow \boxed{m = -16}$$

$$-10x^2 + 25x + 2 = 0 \rightarrow P = \frac{2}{-10} = \frac{-2}{10}$$

