

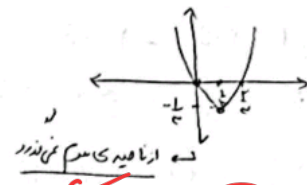
y = 3x^2 - 2x

S | b/a

S | b/a

A | 0

B | F



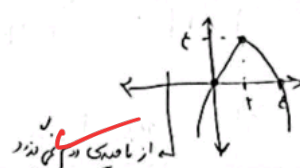
(ا) انت

y = -x^2 + 5x

S | 5

A | 0

B | 5



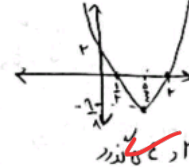
(ب) انت

y = 2x^2 - 5x + 2

S | 2

A | 1

B | 2



(پ) انت

y = -x^2 + 2x - 1

S | 2

C | 0



(د) انت

x^2 - x - 3 = 0    alpha + beta = 1/1 = 1    alpha beta = -3    alpha - beta = sqrt(1+12) = sqrt(13)

انت) alpha + beta = 1/alpha - beta = 1/sqrt(13)

ب) alpha^2 + beta^2 = S^2 - 2P = 1 + 4 = 5

ج) alpha^2 + beta^2 = S^2 - 2P = 1 + 4 = 5

د) alpha^3 - beta^3 = (alpha - beta)(alpha^2 + alpha\*beta + beta^2) = sqrt(13)(5 - 3) = 2\*sqrt(13)

(۳)

y = (n-2)(n^2 - an + a)    S^2    => y = n^2 - an + a

درجه ۲ درجه ۱ درجه ۰

Delta > 0    a^2 - 4a < 0    a(a-4) < 0    + | 0 | +

=> a in (0, 4) => 0 < a < 4    درجه ۲ => (n-2)^2 => a = 4

(۴)

3x^2 - 12x - a = 0    alpha, beta    2alpha^2 + beta^2 - 5a = 5    alpha + beta = 4    alpha beta = -a/3

=> alpha^2 + beta^2 + alpha^2 - 5a = 5    } => 14 + 2a/3 + a/3 = 5    -> 14 + a = 5    => a = -9    => alpha beta = 3

=> 3n^2 - 12n + 4 = 0    => n^2 - 4n + 4 = 0    => (n-2)(n-2) = 0    n=1    n=2    => a/3 = -9/3 = -3

(۵)

A (ra, r, a-2)    B (v-ra, a-2)    S (b, b-2)

b = (ra + v + v - ra) / 2 = 0    => S (0, 2)

1/2 = d(-1)^2 + c    y = d(n-0)^2 + c    d = -1/2    c = -1/2    A (2, 1)    B (1, 1)    => a = 3    a in (2, 3)

=> Delta = 1/4    => ka + c > 0    => va - 2 > 0    => a < 2    => a - 2 > 0    => a > 2

$\alpha^2 - \alpha - b = 0$        $\alpha, \beta \in \mathbb{R}$        $\epsilon_0 \beta^2 + \gamma_0 \alpha^2 - \gamma_0 \beta = 1V$       (V)

$\alpha + \beta = \frac{a}{\alpha} = 1 \Rightarrow \gamma_0 \alpha^2 + \gamma_0 \beta^2 + \gamma_0 \beta^2 - \gamma_0 \beta = 1V \Rightarrow \gamma_0 (\alpha^2 + \beta^2) + \gamma_0 \beta (\frac{\beta-1}{-\alpha}) = 1V$

$\gamma_0 (1 - \gamma_0 \alpha \beta) - \gamma_0 \alpha \beta = \gamma_0 - \epsilon_0 \alpha \beta - \gamma_0 \alpha \beta = 1V \Rightarrow \gamma_0 - 2\gamma_0 \alpha \beta = 1V \Rightarrow 2\gamma_0 \alpha \beta = \gamma_0 - 1V$

$\Rightarrow \alpha \beta = \frac{1}{2} = -\frac{b}{\alpha} \Rightarrow a = -2\gamma_0 b$        $-\gamma_0 b \alpha^2 + \gamma_0 b \alpha - b$

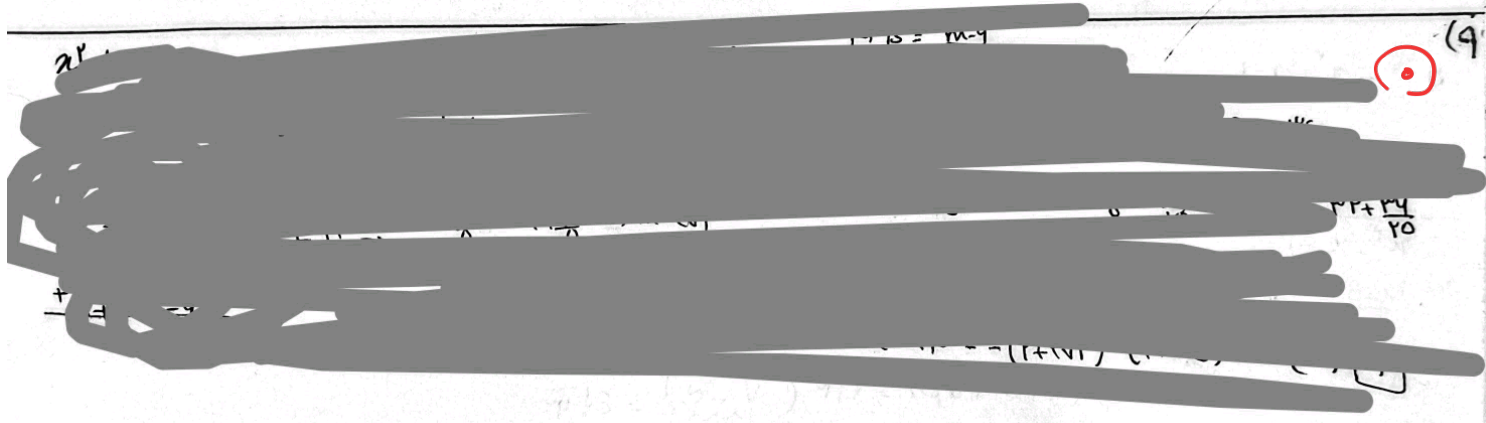
$\alpha - \beta = \frac{\sqrt{\Delta}}{|\alpha|} = \frac{\sqrt{\epsilon_0 b^2 - \epsilon_0 \gamma_0 b^2}}{|-\gamma_0 b|} = \frac{\sqrt{2\gamma_0 b^2}}{\gamma_0 |b|} = \frac{1/\sqrt{2} \sqrt{a}}{\gamma_0 |b|} = \frac{1/\sqrt{2} \sqrt{a}}{\omega}$       (P)

$(-\alpha, \beta), (1, \beta)$        $\alpha_s = \frac{1-d}{r} = -r \Rightarrow S \begin{vmatrix} -r \\ -\frac{1}{r} \end{vmatrix} \Rightarrow y = \alpha x^2 + \beta x + c \Rightarrow \frac{c-b}{\alpha} = -r \Rightarrow b = \epsilon a$       (A)

$y_s = -\frac{1}{r}$

$c(0, y) \xrightarrow{\substack{x=-r \\ y=-\frac{1}{r}}} \epsilon a - r b + \frac{c}{r} = -\frac{1}{r} \Rightarrow \epsilon a - r b = -r \Rightarrow \epsilon a - \alpha a = -r \Rightarrow +\epsilon a = r$        $a = \frac{1}{r}$

$\Rightarrow y = \frac{1}{r} x^2 + r x + \frac{c}{r} \Rightarrow \beta = \frac{1}{r} + r + \frac{c}{r} = \epsilon$       (P)



$\sqrt{\frac{1}{a}} + \sqrt{\frac{1}{b}} = a$

$\epsilon_0 \gamma_0 \alpha^2 - (m + \epsilon) \alpha + 1 = 0$        $\alpha + \beta = \frac{m + \epsilon}{\epsilon_0 \gamma_0}$        $\alpha \beta = \frac{1}{\epsilon_0 \gamma_0}$

$\frac{\sqrt{a} + \sqrt{b}}{\sqrt{ab}} = a \Rightarrow \frac{\alpha + \beta + \gamma \sqrt{\alpha \beta}}{\alpha \beta} = \gamma a \Rightarrow \frac{\frac{m + \epsilon}{\epsilon_0 \gamma_0} + \frac{\gamma}{\epsilon_0 \gamma_0}}{\frac{1}{\epsilon_0 \gamma_0}} = \gamma a \Rightarrow m + \gamma = \gamma a$

$\Rightarrow m = -1$

$\rightarrow m \alpha^2 + c \alpha + \gamma = -\alpha^2 + c \alpha + \gamma = 0 \rightarrow \frac{c}{\alpha} = -\gamma$       (P)

$$12\alpha^2 + 12\beta^2 = \frac{1}{4}(\alpha^2 + \beta^2) + \frac{1}{4}(\alpha^2 - \beta^2) = 12\sqrt{2} + 12$$

$$\frac{1}{4}(3^2 - 12) + \frac{1}{4}(5)\left(\frac{\sqrt{12}}{12}\right) = 12\sqrt{2} + 12$$

$$\frac{1}{4}(9 - 12) + \frac{1}{4}(-4)\left(\sqrt{12 - 2a}\right) = 12\sqrt{2} + 12$$

$$9 - 12a + 4\sqrt{12 - 2a} = 12\sqrt{2} + 12 \quad \rightarrow \quad 9 - 12a = 12\sqrt{2} \rightarrow a = 1$$