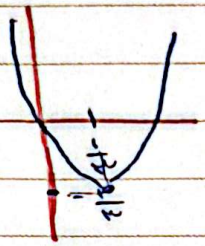
طاهاجعفری ⟸ دهم B

۱- (ازتابیع ۳) ✓

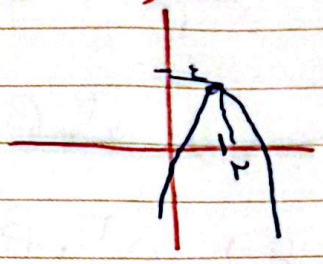
الف) $y = 3x^2 - 2x$



(۲)

ب) $y = -x^2 + 4x$

(ازتابیع ۲) ✓



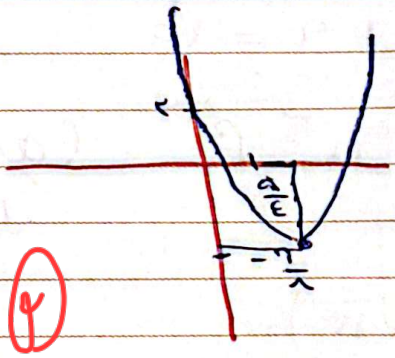
2-

الف) $2x^2 - 4x + 2$

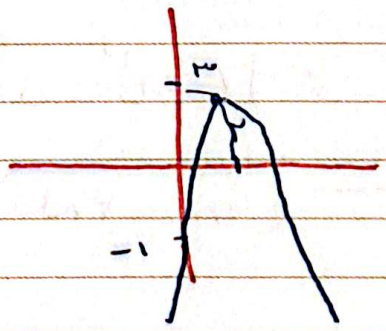
(ازتابیع ۱ و ۲ و ۴) ✓

ب) $-x^2 + 4x - 1$

(۴)



(ازتابیع ۱ و ۳ و ۴) ✓



-3

الف) $\frac{\alpha+\beta}{\alpha-\beta} = \frac{S}{\frac{\sqrt{\Delta}}{|a|}} =$

$\frac{1}{\frac{\sqrt{13}}{1}} = \frac{\sqrt{13}}{13}$ ✓ (۲)

ب) $\alpha^2+\beta^2 = S^2 - 2P = 1+6 = 7$ ✓

ج) $\alpha^3+\beta^3 = S^3 - 3SP \longrightarrow$

$1 + 9 = 10$ ✓

د) $\alpha^3-\beta^3 = (\alpha-\beta)(\alpha^2+\beta^2+\alpha\beta) =$

$\sqrt{13} \quad 7 \quad -3$

$(4\sqrt{13})$ ✓

-4

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

↳ (در نقطه $x=2$)

(۲)

۱- $(x-2)(x-2) = x^2-4x+4 = x^2-ax+a$ ✓

۲- $\Delta < 0 \rightarrow a^2-4a<0$

$a(a-4)<0$

$0<a<4$

$0<a\leq 4$ ✓

.5

$$x^2+y^2-4x=5$$

$$x^2+x^2+y^2-4x-5=0$$

$$x^2+y^2=\frac{2a}{3}$$

$$a=3x^2-12x \xrightarrow{\times\frac{2}{3}} \frac{2a}{3}=2x^2-8x$$

$$3x^2-12x+9=0$$

$$(3x-9)(x-1) \Rightarrow x=1 \quad x=3$$

if $x=1 \rightarrow 2x^2-12x-a \rightarrow -9-a=0 \quad a=-9$

if $x=3 \rightarrow 3x^2-12x-a \rightarrow -9-a=0 \quad a=-9$

(غیق نفی کنه)

$$3x^2-12x+9 \rightarrow \begin{matrix} x=1 \\ y=2 \end{matrix} \cup \begin{matrix} x=3 \\ y=1 \end{matrix}$$

$$\frac{a}{3}=\frac{-9}{3}=-3$$

(۲)

6- $\frac{۲a+۳+۷-۲a}{۲} = a \longrightarrow b$ ← n_s

(Ex: $\begin{vmatrix} b & a \\ b-۲ & ۳ \end{vmatrix}$)

$۷-۲a>۰ \Rightarrow a<۳/۵$ ← دولفه طبیعی

$a-۲>۰ \Rightarrow a>۲$ → $a=۳$

$A \to (۹,۱) \quad B \to (۱,۱)$

$ax^۲+bx+c \longrightarrow \frac{-b}{۲a} = \frac{۵}{۱}$

$-b=۱۰a$

$ax^۲-۱۰a(x)+c$

$if\ x=۱ \longrightarrow -۹a+c=۱ \quad c=۹a+۱$ (۲)

$ax^۲-۱۰a(x)+۹a+۱$

$if\ x \to a \quad -۱۶a=۲ \quad a=-\frac{۱}{۸}$

$-\frac{۱}{۸}(x^۲)+\frac{۱۰}{۸}(x)+\frac{۱}{۸}$ (۴)

فاصله به اندازه مثبت بیان می‌شود

(1)

$$\varepsilon_0\beta^2 + 2\alpha^2 - 2\beta = 17 \xrightarrow{\div 2} \quad -7$$

$$2\beta^2 + \alpha^2 - \beta = \frac{17}{2}$$

$$\beta^2 + \beta^2 + \alpha^2$$

$$1 + \frac{2b}{a}$$

$$1 + 2\beta^2 - 2\beta \longleftarrow \beta^2 - \beta = \frac{b}{a}$$

$$ax^2 - ax - b \longrightarrow$$

$$a\beta^2 - a\beta - b = 0$$

$$3\beta^2 - 3\beta + \frac{3}{2} \xrightarrow{\div 3} \beta^2 - \beta + \frac{1}{2} = 0$$

$$\beta^2 - \beta = -\frac{1}{2}$$

$$\frac{b}{a} = \frac{1}{2} \qquad 2b = a$$

$$ax^2 - ax - \frac{a}{2} \longrightarrow \frac{\sqrt{\Delta}}{|a|} =$$

$$\frac{\sqrt{a^2 + \frac{a^2}{4}}}{a} \qquad a\frac{\sqrt{5}}{\sqrt{4}} \qquad \alpha$$

$$\begin{cases} ax^2 - ax - b = 0 \\ a\beta^2 - a\beta - b = 0 \\ 4\beta^2 + 2\alpha^2 - 2\beta = 17 \end{cases} \qquad S = \alpha + \beta = 1 \rightarrow \alpha = 1 - \beta$$

$$4\beta^2 + 2(1-\beta)^2 - 2\beta - 17 = 0 \rightarrow 2\beta^2 - 2\beta + 1 = 0 \rightarrow \beta = \frac{2 \pm \sqrt{4 - 8}}{4} = \frac{1 \pm \sqrt{8}}{2}$$

$$\alpha - \beta = 1 - \beta - \beta = 1 - 2\beta \rightarrow 1 - 2\left(\frac{1 \pm \sqrt{8}}{2}\right) = \pm\frac{2}{\sqrt{5}} \rightsquigarrow \text{اصلاح} = \frac{2}{\sqrt{5}}$$

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8. المترسم $\rightarrow$ $\frac{1+(-5)}{2} = -2 \rightarrow x$

$-\frac{1}{2} \rightarrow y$

$c = \frac{3}{2}$

$ax^2 + bx + \frac{3}{2}$

$\frac{-b}{2a} = -2 \quad b = 4a$

$ax^2 + 4ax + \frac{3}{2} \longrightarrow$ if $x = -2$

$4a - 8a + \frac{3}{2} = -\frac{1}{2} \quad -4a = -2$

$a = \frac{1}{2}$ if $x = 1$

$\frac{1}{2}x^2 + 2x + \frac{3}{4} \longrightarrow y = \beta = \xi$

(٢)

9

$x^2+4x+a=0 \rightarrow S=-4$, $P=a$

$\alpha^2+2(\alpha^2+\beta^2)=12\sqrt{2}+18$

$\alpha^2+\beta^2 = S^2-2P$

$2(16-2a)=12\sqrt{2}+18$

$(-4+\sqrt{9-a})^2+2(16-2a)=12\sqrt{2}+18$

$9+9-a+4\sqrt{9-a}+32-8a=12\sqrt{2}+18$

$4\sqrt{9-a}=12\sqrt{2} \Rightarrow \sqrt{9-a}=3\sqrt{2}$

$a=1$

(2)

$$\frac{1}{\sqrt{\alpha}}+\frac{1}{\sqrt{\beta}}=\frac{\sqrt{\alpha}+\sqrt{\beta}}{\sqrt{\alpha\beta}}=5$$ ·10

(1)

$$(\sqrt{\alpha}+\sqrt{\beta})^2=(\frac{9}{2})^2 \longrightarrow$$

$$\alpha+\beta+2\sqrt{\alpha\beta}=\frac{25}{36}-\frac{4}{36}$$

$$\frac{1}{12}$$

$$\alpha+\beta=\frac{19}{24} \qquad \frac{m+14}{36}=\frac{19}{36}$$

$$m=5$$

$$mx^2+2x+2 \longrightarrow P=\frac{2}{5}$$

$$A=\sqrt{\frac{1}{a_1}}+\sqrt{\frac{1}{a_2}}=5 \rightarrow A^2=\frac{1}{a_1}+\frac{1}{a_2}+2\sqrt{\frac{1}{a_1a_2}}=\frac{a_1+a_2}{a_1a_2}+2\sqrt{\frac{1}{a_1a_2}}=\frac{5}{6}+2\sqrt{\frac{1}{6}}=25$$

$$\rightarrow m+14+2(4)=25 \rightarrow m+22=25 \rightarrow m=-1$$

$$\text{مجموع } P=\frac{c}{a}=\frac{2}{m}=\frac{2}{-1}=-2$$