نام و نام خانوادگی ................ پاسخنامه تشریحی تکلیف شماره ..۲۵.. کلاس ......دهم تجربی A..........

**۱**

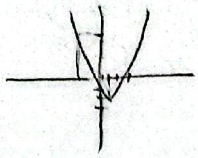
$3 \times \frac{1}{9} - \frac{2}{3} = -\frac{1}{3}$

الف) $y = 3x^2 - 2x$

$\frac{2}{6} = \frac{1}{3} = x(ext)$

$-\frac{1}{3} = y(ext)$

ناحیه ۳

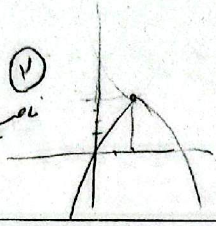


ب) $y = -x^2 + 4x$

$\frac{-4}{-2} = 2 = x$

$y = 4$

ناحیه ۲

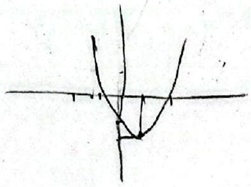


**۲**

الف) $2x^2 - 5x + 2$

$1\frac{1}{4} = \frac{5}{4} = x$ $\qquad -1\frac{1}{8}$

$\Delta = 25 - 4(4) = 9 \qquad \frac{-9}{8} = y$

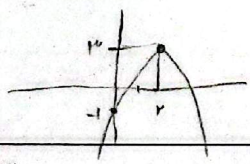


ناحیه ① و ② و ④ رد می‌شود

ب) $y = -x^2 + 4x - 1$

$\frac{-4}{-2} = 2 = x$

$3 = y$



ناحیه ① و ③ و ④ رد می‌شود

**۳**

$x^2 - x - 3 = 0 \qquad \Delta = 1 - 4(-3) = 13$

$\alpha + \beta = 1$

$\alpha\beta = -3$

α و β

الف) $\frac{S}{\alpha - \beta} \Rightarrow \frac{1}{\sqrt{13}} = \frac{\sqrt{13}}{13}$

ج) $\alpha^3 + \beta^3 = (\alpha + \beta)^3 - 3\alpha\beta(\alpha + \beta) = 10$

ب) $\alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta$

$\rightarrow 1 - 2(-3) = 7$

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

$13\sqrt{13} - 9\sqrt{13} = 4\sqrt{13}$

**۴**

$\Delta = 0$

$y = (x - 2)(x^2 - ax + a)$ ②

$\Delta \rightarrow x^2 - ax + a < 0$

$a^2 - 4(a) < 0$

$a^2 - 4a < 0$

$\Delta = 16$

$\frac{4 \pm 4}{2} = 4, 0$

0 4: − − +

$(0, 4) \rightarrow a$

**۵**

$3x^2 - 12x - a = 0 \qquad$ α و β

$2\alpha^2 + \beta^2 - 4\alpha = 7$

$\beta^2 + \alpha^2 = S^2 - 2P = 16 + \frac{2a}{3} = \frac{48 + 2a}{3}$

$\alpha^2 = \frac{12\alpha + a}{3}$

$\frac{12\alpha + a}{3} + \frac{48 + 2a}{3} - 4\alpha - 7 = 0$

$a = -9$

ها $x = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{12 \pm \sqrt{36}}{6}$ ③ ①

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

**6**

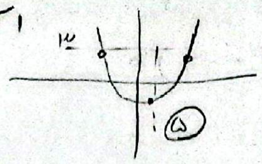
A | ~~$2a+3$~~ 9 ; ~~$a-2$~~ 1

B | ~~$7-2a$~~ 1 ; ~~$a-2$~~ 1

**$a=3$** → اعداد را جایگذاری می‌کنیم

$S$ | ~~$b$~~ 5 ; ~~$b-2$~~ 3

تنها عددی که آن را طبیعی می‌توانیم ۱۳ است.



**$b=5$**

$b-2=3$

**$m=-\frac{1}{8}$**

$y(0)=-\frac{1}{8} \to \left|-\frac{1}{8}\right|$ → **$\frac{1}{8}$**

$y=m(x-5)^2+3 \rightsquigarrow -\frac{1}{8}(x-5)^2+3$

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**7**

$ax^2-ax-b=0$ $\quad \alpha, \beta \quad$ $\alpha+\beta=1$

$\beta^2=(1-\alpha)^2$

$40\beta^2+20\alpha^2-20\beta=17$

$40(1-\alpha)^2+20(\alpha^2)-20(1-\alpha)=17 \to 60\alpha^2-60\alpha+3=0$

$|\alpha-\beta|=\sqrt{S^2-4P}=\frac{2}{\sqrt5}=$ **$\frac{2\sqrt5}{5}$**

$S=1$

$P=\frac{1}{20}$

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**8**

$|^{1}_{\beta}$ $\quad |^{-5}_{\beta}$ $\quad \frac{-b^2+4ac}{4a}=+\frac{1}{2}$ $\quad 5a+\frac{3}{2}=y$

$\frac{a}{2}+\frac{3}{2}=$ **$4=y=\beta$**

$2b^2-4ac-4a=0$

$\frac{b^2}{4a}-\cancel{c}=\frac{1}{2} \to \frac{16a^2}{4a}=2$ $\quad (c=-\frac{3}{2})$

$4a=2$

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

$|^{-1/2}$ $\quad |^{0}_{3/2}$ $\quad \beta=$

$y=ax^2+bx+c=0 \to a+b+\frac{3}{2}=y$ (4a) $\quad 24a-6b=0$

$c=\frac{3}{2}$ $\quad 25a-5b+\frac{3}{2}=y$ $\quad 24a=6b \Rightarrow$ **$b=4a$**

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**9**

$x^2+6x+a=0$ $\quad \alpha^2+6\alpha+a=0$ $\quad \alpha^2=-6\alpha-a$

$-18\alpha-3a-12\beta-2a=12\sqrt2+85$

$\alpha<\beta<0$

$\alpha=-3+\sqrt{9-a} \to \alpha^2=18-a-6\sqrt{9-a}$

$3\alpha^2+2\beta^2=12\sqrt2+85$ $\quad \to \beta^2=18-a-6\sqrt{9-a}$

$\to 90-5a-6\sqrt{9-a}=12\sqrt2+85 \longrightarrow 5a+6\sqrt{9-a}=5+6\sqrt8$

**$a=1$**

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**10**

$\alpha+\beta=\frac{m+14}{36}$ $\quad \alpha\beta=\frac{1}{36}$

$36x^2-(m+14)x+1=0$

$\sqrt{\frac{1}{\alpha}}+\sqrt{\frac{1}{\beta}}=5 \to \frac{1}{\alpha}+\frac{1}{\beta}+2\sqrt{\frac{1}{\alpha\beta}}=25$

$\frac{m+14}{36}\times 36+2\sqrt{36}=25$

$mx^2+3x+2$

$m+14=25-12$

$13$

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

**$m=-1$**

**$P=-2$**