نام و نام خانوادگی ...حسین بلگری جواد... پاسخنامه تشریحی تکلیف شماره ...۱۴... کلاس ...یازدهم (A)...

(۱۹)

۱ (۲)

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

$-(\frac{b}{2})^2 + b(\frac{b}{2}) + 3 = 7$

$\frac{-b^2}{4} + \frac{b^2}{2} = 4 \rightarrow \frac{b^2}{4} = 4 \rightarrow b^2 = 16$ $\begin{cases} b = +4 \checkmark & -x^2+4x+3 \\ b = -4 \checkmark & -x^2-4x+3 \end{cases}$

۲ (۲)

الف) $x^2 = t \rightarrow t^2+2t+3=0$ $\Delta = b^2-4ac = 4-12 = -8 < 0 \rightarrow$ ریشه ندارد

ب) $4-x^2 = t \rightarrow t^2-2t-15=0$ $(t-5)(t+3)=0$

$t=5$: $4-x^2=5 \rightarrow x^2=-1$ ✗ غ ق ق

$t=-3$: $4-x^2=-3 \rightarrow x^2=7$ $\begin{cases} x=\sqrt{7} \\ x=-\sqrt{7} \end{cases}$

۳ (۱,۷۵)

$\alpha = \beta + 2$

$\frac{-b}{a} = \frac{16}{4} = 4 \rightarrow \beta+2+\beta = 4 \rightarrow \beta = 1, \alpha = 3$

$\frac{c}{a} = \frac{m}{4} = 1 \times 3 \rightarrow m = 12$

$4x^2-16x+12=0$ $\Delta>0$ ✓

۴ (۱,۷۵)

$2\alpha - \beta = 4 \rightarrow \beta = 2\alpha - 4$

$\frac{-b}{a} = \frac{6}{3} = 2\alpha - 4 + \alpha = 2 \rightarrow 3\alpha = 6 \rightarrow \alpha = 2, \beta = 0$

$\frac{c}{a} = \frac{m-1}{3} = 2 \times 0 \rightarrow m-1=0 \Rightarrow m=1$

$3x^2-6x=0$ $\Delta>0$ ✓

۵ (۲)

$\alpha\beta = 1 \rightarrow \frac{c}{a} = 1 \rightarrow \frac{m^2-2}{-m} = 1$ $m^2-2 = -m$ $m^2+m-2=0$ $\begin{cases} m=1 \checkmark \\ m=-2 \text{ ✗} \end{cases}$

$m=1 \rightarrow -x^2+2x-1=0$

$\Delta > 0 \Rightarrow 16-4>0$ ✓

$\boxed{m=1}$ ← غ ق ق

$m=-2 \rightarrow 2x^2+4x+2=0$ $\Delta>0 \Rightarrow 16-16>0$ ✗ $16-16=0$

$\alpha\beta^2 = \alpha\beta \times \beta = 4 \rightarrow P\beta = 4$

$P = \frac{c}{a} = 3 \quad 3\beta = 4 \rightarrow \beta = \frac{4}{3}, \ \alpha = \frac{9}{4}$

$m = \alpha + \beta = \frac{4}{3} + \frac{9}{4} = \frac{16+27}{12} = \frac{43}{12}$ ۶

$x^2 - \frac{43x}{12} + 3 \rightarrow \Delta > 0$ ✓ (۱٫۷۵)

$\alpha = 3\beta \qquad \frac{-b}{a} = 4$

$\beta + 3\beta = 4 \Rightarrow \beta = 1 \ \alpha = 3$

$\frac{c}{a} = m = \alpha\beta = 1 \times 3 = 3 \qquad m = 3$ ۷

$x^2 - 4x + 3 \rightarrow \Delta > 0$ ✓ (۱٫۷۵)

$x^2 - 7x + 2 = 0$

$\alpha + \beta = 7$

$\alpha\beta = 2 \rightarrow \frac{2}{\alpha} = \beta$

~~$\alpha^3 + \frac{8}{\alpha^3} = (\alpha + \frac{2}{\alpha})(\alpha^2 + \frac{4}{\alpha^2} - 2)$~~

$\alpha^3 + \frac{8}{\alpha^3} = (\alpha + \beta)(\alpha^2 + \beta^2 - 2)$ ۸

$\alpha^3 + \frac{8}{\alpha^3} = S(S^2 - 2P - 2) = 7(49 - 4 - 2) = 7 \times 43$ (۲)

$\frac{-b}{2a} = \frac{-50}{-20} = \frac{5}{2}$ (۲)

$-10(\frac{5}{2})^2 + 50(\frac{5}{2}) = -10 \times \frac{25}{4} + 50 \times \frac{5}{2} = 10 \times \frac{25}{2} - 5 \times \frac{25}{2} = \frac{5 \times 25}{2}$ ۹

$Max = \frac{125}{2} = 62.5$

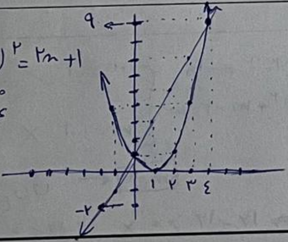
$-10t^2 + 50t = 0 \qquad t(-10t + 50) = 0 \quad \begin{cases} t = 0 \\ -10t + 50 = 0 \quad t = \frac{-50}{-10} = 5 \end{cases}$

الف)

$(x-1)^2 = 2x + 1$

$x = 0$

$x = 4$

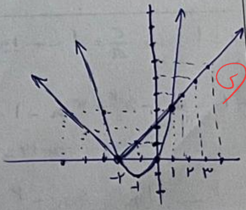


ب)

$x^2 + 2x = |x + 2|$

$x = -2$

$x = 1$



(۲) ۱۰