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نام و نام خانوادگی ...[illegible]... پاسخنامه تشریحی تکلیف شماره ...۱۴... کلاس ....

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$7 = -(\frac{b}{2})^2 + b(\frac{b}{2}) + 3 \Rightarrow 7 = -\frac{b^2}{4} + \frac{b^2}{2} + 3 \to b^2 = 16 \to b = \pm\sqrt{16}$

$b = \pm 4$

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الف) $x^2 = t \to t^2 + 2t + 3 = 0 \quad \Delta < 0$ ریشه ندارد

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

$4 - x^2 = -3 \to x^2 = 7 \to x = \pm\sqrt{7}$

$4 - x^2 = 5 \to x^2 = -1$ غ ق ق

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α و $\alpha + 2 \to S = 2\alpha + 2 = 4 \to \alpha = 1$ و $\alpha + 2 = 3$

$P = \frac{m}{4} = 3 \to m = 12$

$4x^2 - 16x + 12 = 0 \quad \Delta > 0$ ✓

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$\alpha + \beta = 2$, $2\alpha - \beta = 4$ } $\alpha = 2$, $\beta = 0$

$P = \frac{m-1}{3} = 0 \to m = 1$

$3x^2 - 6x = 0 \to \Delta > 0$

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α و $\frac{1}{\alpha}$

$P = \alpha \times \frac{1}{\alpha} = 1 \Rightarrow \frac{m^2 - 2}{-m} = 1 \to m^2 - 2 + m = 0 \to -2, 1$

$m = -2 \to \Delta = 0$ ✗

$m = 1 \to \Delta > 0$ ✓ درسته

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$\alpha\beta = 3 \longrightarrow \alpha\beta^2 = 3\beta$
$\alpha\beta^2 = 6$
$\rightarrow 3\beta = 6$
$\beta = \frac{6}{3}, \alpha = \frac{3}{2}$
$S = \alpha + \beta = \frac{3}{2} + \frac{6}{3} = \frac{21}{6}$

$x^2 - \frac{21}{6}x + \underbrace{3}_{\alpha\beta} = 0 \rightarrow \Delta > 0$

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$\alpha, 2\alpha$
$P = 2\alpha \times \alpha = 2\alpha^2 \rightarrow 2\alpha^2 = m \rightarrow m = 2$
$S = \alpha + 2\alpha = 3\alpha \rightarrow 3\alpha = 3 \rightarrow \alpha = 1$

$x^2 - 3x + 2 = 0 \rightarrow \Delta > 0$

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$\alpha^2 - 3\alpha + m = 0 \xrightarrow{\div \alpha} \alpha + \frac{2}{\alpha} - 3 = 0 \rightarrow \alpha + \frac{2}{\alpha} = 3$

$\alpha^3 + \frac{8}{\alpha^3} \rightarrow \alpha^3 + \left(\frac{2}{\alpha}\right)^3 \rightarrow \underbrace{\left(\alpha + \frac{2}{\alpha}\right)}_{3} \left(\alpha^2 - 2 + \frac{4}{\alpha^2}\right) = 3(5 - 2) = 9$

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$t_{max} = \frac{-b}{2a} = \frac{-20}{10} = 2 \rightarrow h_{max} = h(2) = -10(2)^2 + 20(2) = 40$

$-10t^2 + 20t = 0 \rightarrow -10t(t - 2) = 0 \rightarrow t = 0$ یا $t = 2$ ✓

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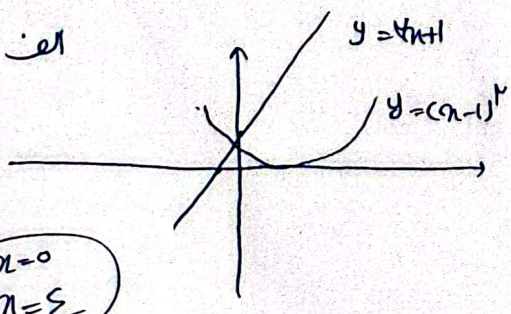
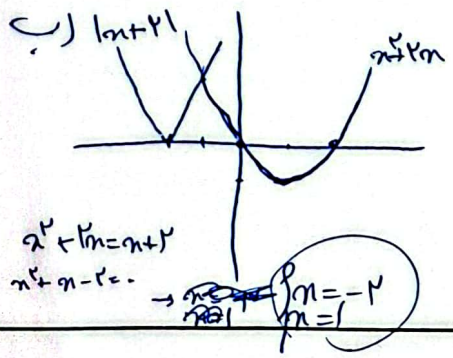
الف)



$x = 0$
$x = 4$

ب) $|x + 2|$



$x^2 + 2x = x + 2$
$x^2 + x - 2 = 0$
$x = -2$ یا $x = 1$