نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ..... کلاس .....

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$$\frac{-\Delta}{4a} = V \Rightarrow \frac{-(b^2+12)}{40} = V \Rightarrow b^2+12 = 28 \Rightarrow b^2 = 16 \Rightarrow b = \pm 4$$

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الف) $x^2 = t \Rightarrow t(x) = t^2+2t+3 \longrightarrow \Delta < 0$ ریشه حقیقی ندارد

ب) $(4-x^2) = t \Rightarrow t(x) = t^2-2t-(3) \rightarrow t = 5, \ t = -3$

$4-x^2 = 5 \rightarrow x^2 = -1$ غ ق ق / $4-x^2 = -3 \rightarrow x^2 = 7 \Rightarrow x = \pm\sqrt{7}$

۳

$\beta = \alpha+2 \qquad \alpha+\beta = -\frac{b}{a} = \frac{12}{4} = 3 \longrightarrow \alpha+\alpha+2 = 3 \Rightarrow \alpha = 1$

$\beta = 3$

$\alpha\beta = 3 \Rightarrow \frac{c}{a} = 3 \Rightarrow \frac{m}{4} = 3 \rightarrow m = 12$

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$2\alpha-\beta = 2 \Rightarrow \beta = 2\alpha-2 \qquad \alpha+\beta = \frac{-6}{-3} = 2$

$\alpha+\beta = 2 \rightarrow \alpha+2\alpha-2 = 2 \Rightarrow 3\alpha = 4 \rightarrow \alpha = 2, \ \beta = 0$

$\alpha\beta = 0 \Rightarrow \frac{c}{a} = 0 \Rightarrow m-1 = 0 \Rightarrow m = 1$

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$\alpha\beta = 1 \Rightarrow \frac{c}{a} = 1 \Rightarrow \frac{m^2-2}{-m} = 1 \Rightarrow m^2-2 = -m$

$\rightarrow m^2+m-2 = 0 \longrightarrow (m+2)(m-1) = 0$

$\Delta > 0 \xrightarrow{m=-2} 2x^2+4x+2 \rightarrow \Delta = 0$ ✗ — $m = -2$ غ ق ق

$\Delta > 0 \xrightarrow{m=1} -x^2+4x-1 \rightarrow \Delta = 12$ ✓ — $m = 1$ ق ق ✓

۶

$\alpha\beta = \frac{c}{a} = 3$ $\quad \alpha\beta^2 = 4 \rightarrow \alpha\beta \times \beta = 4 \rightarrow \beta = \frac{4}{3}$ ، $\alpha = \frac{9}{4}$

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

$a + b = \frac{-b}{a} = m$

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$\alpha = 3\beta$ $\quad \alpha + \beta = \frac{-b}{a} = 4 \rightarrow 3\beta + \beta = 4 \rightarrow \beta = 1$ ، $a = 3$

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

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$\alpha\beta = 2 \Rightarrow \alpha^3\beta^3 = 8 \rightarrow \beta^3 = \frac{8}{\alpha^3} \Rightarrow \alpha^3 + \frac{8}{\alpha^3} = \alpha^3 + \beta^3$

$\alpha^3 + \beta^3 = S^3 - 3SP = 4^3 - 3 \times 7 \times 2 = 64 - 42 = 22$

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$f(h) = -16t^2 + 50t \rightarrow \max = \frac{-\Delta}{4a} = \frac{-(2500)}{-40} = \frac{125}{2}$

$-16t^2 + 50t = 0 \rightarrow t(50 - 16t) = 0$

$t = 0$ ، $t = \frac{50}{16} = \frac{25}{8}$

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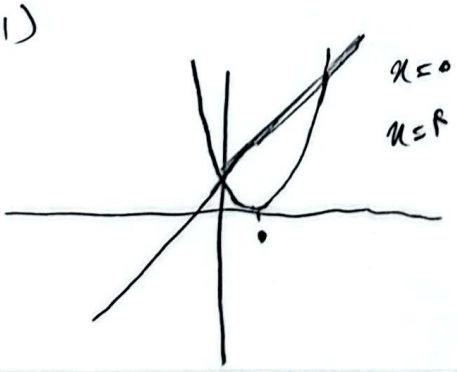
الف)



ب)