نام و نام خانوادگی ..... علی جمالی ..... پاسخنامه تشریحی تکلیف شماره ..۱۴.. کلاس .....پایه پیش A.....

۱

$\frac{-b}{2a} = \frac{-b}{-2} = \frac{b}{2} = 7 \Rightarrow \boxed{b = 14}$

۲

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

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

$4 - x^2 = 5 \Rightarrow x^2 = -1$ ✗

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

۳

$|\alpha - \beta| = \frac{\sqrt{\Delta}}{|a|} = 2 \rightarrow \frac{\sqrt{256 - 16m}}{|4|} = 2 \rightarrow \sqrt{256 - 16m} = 8 \rightarrow$

$64 = 256 - 16m \Rightarrow 16m = 192 \Rightarrow \boxed{m = 12}$

$4x^2 - 16x + 12 = 0 \Rightarrow x^2 - 4x + 3 = 0$

$(x-3)(x-1) = 0 \Rightarrow \boxed{x = 1, 3}$

۴

$S = 2$ $2\alpha - \beta = 4 = 2\alpha + 2\beta \Rightarrow \beta = 0$

$f(0) = 0 \Rightarrow m - 1 = 0 \Rightarrow \boxed{m = 1}$

۵

$P = \alpha \cdot \frac{1}{\alpha} = 1 \Rightarrow \frac{m^2 - 2}{-m} = 1$ $m^2 + m - 2 = 0 \rightarrow (m+2)(m-1) = 0$

$m = 1$ یا -2

$m=-2$ $2x^2 + 4x + 2 = 0 \Rightarrow (x+1)^2 = 0 \rightarrow$ ریشه مضاعف

$m=1 \Rightarrow -x^2 + 4x - 1 = 0$ $\Delta = 16 - 4 = 12 > 0$ دو ریشه متمایز

$\Rightarrow \boxed{m = 1}$

۶

$\alpha^2 - m\alpha + 3 = 0 \qquad P = 3 \qquad S = m$

$\alpha^2 = m\alpha - 3$

$\alpha^2\beta = m\alpha\beta - 3\beta = 3(m-\beta) \Rightarrow 3\alpha = 6 \Rightarrow \alpha = \frac{3}{2}$

$\frac{9}{14} - \frac{3m}{4} + 3 = \frac{9 - 12m + 84}{14} = \frac{93 - 12m}{14} = 0$

$m = \frac{93}{12} = \boxed{\frac{19}{4}}$

۷

$\alpha = 3\beta$

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

$P = m \Rightarrow \alpha\beta = 3 = m$

$\boxed{m = 3}$

۸

$S = 7$

$P = 2 \Rightarrow P^3 = 8$

$\frac{8}{\alpha^3} = \frac{P^3}{\alpha^3} = \beta^3$

$\Rightarrow \alpha^3 + \frac{8}{\alpha^3} = \alpha^3 + \beta^3 = S^3 - 3SP =$

$343 - 3 \times 7 \times 2 = \boxed{301}$

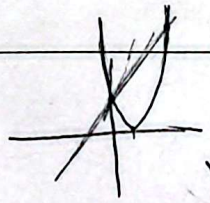
۹

$-10t^2 + 50t = 0 \Rightarrow t(-10t + 50) = 0 \xrightarrow{t \neq 0} \boxed{t = 5}$

$y_{max} = \frac{-\Delta}{4a} = \frac{-(2500)}{-40} = \boxed{62.5}$

۱۰

الف)



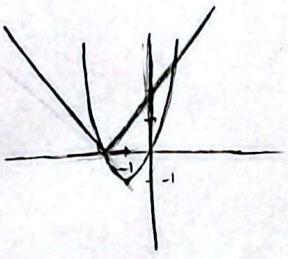
دوجواب $\boxed{4,5}$

ب)

$x^2 + 2x$

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

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



دوجواب $\boxed{-2,1}$