

نام و نام خانوادگی.....	پاسخنامه تشریحی تکلیف شماره ۱۴..... کلاس.....
$y = -x^2 + bx + 3$ $\Delta = b^2 - 4(3)(-1) = b^2 + 12$ $y_{max} = \frac{9}{4} = \frac{-(b^2 + 12)}{4(-1)} = 9 \rightarrow b^2 + 12 = 36 \rightarrow b^2 = 24 \rightarrow b = \pm 2\sqrt{6}$	۱
الف) $f(x) = x^2 + 2x + 3$ $x = t \rightarrow f(t) = t^2 + 2t + 3 \rightarrow \Delta = 4 - 12 = -8$ عبارت همواره مثبت است و فاقد ریشه حقیقی می باشد. ب) $R(x) = (x - m)^2 - 2(x - m^2) - 15$ $x - m^2 = t \rightarrow t^2 - 2t - 15 \leq 0 \rightarrow (t - 5)(t + 3) \leq 0$ $\rightarrow t = 5 \rightarrow x - m^2 = 5 \rightarrow m^2 = -1$ غیر ممکن $\rightarrow t = -3 \rightarrow x - m^2 = -3 \rightarrow m^2 = 3 \rightarrow m = \pm \sqrt{3}$	۲
$km^2 - 4m + m - 1 = 0$ $\alpha = \beta + 2$ $S = \alpha + \beta = \frac{-(-4)}{k} = \frac{4}{k} \rightarrow \alpha + \beta = \frac{4}{k} \rightarrow \beta + 2 + \beta = \frac{4}{k} \rightarrow 2\beta + 2 = \frac{4}{k} \rightarrow k = 1, \alpha = 3$ $P = \alpha \cdot \beta = \frac{m}{k} \rightarrow 1 \cdot 3 = \frac{m}{k} \rightarrow m = 3$	۳
$km^2 - 4m + m - 1 = 0$ $k\alpha - \beta = 4 \rightarrow \beta = k\alpha - 4$ $S = \alpha + \beta = \frac{-(-4)}{k} = \frac{4}{k} \rightarrow k\alpha - 4 + \alpha = \frac{4}{k} \rightarrow \alpha(k + 1) = \frac{4}{k} + 4$ $P = \alpha \cdot \beta = \frac{m - 1}{k} = 0 \rightarrow m - 1 = 0 \rightarrow m = 1$	۴
$-mn^2 + 4m + m^2 - 2 = 0$ $\frac{m^2 - 2}{-m} = 1 \rightarrow m^2 - 2 = -m \rightarrow m^2 + m - 2 = 0$ $\rightarrow m = 1$ صحیح $\rightarrow -m^2 + 4m - 1 = 0$ $\rightarrow m = 2$ صحیح $\rightarrow -m^2 + 4m + 2 = 0 \rightarrow \Delta = 20$ در ریشه حقیقی متمایز می باشد، پس قابل قبول نیست.	۵

$$x^r - m + r_2 = 0$$

$$\left. \begin{array}{l} \alpha \beta = r \\ \alpha \beta = r \end{array} \right\} \rightarrow \beta = \frac{r}{\alpha}, \alpha = \frac{r}{\frac{r}{\alpha}} = \frac{r}{r}$$

$$S_2 + m = \alpha + \beta \rightarrow m = \frac{9}{r} + \frac{r}{r} = \frac{r^2 + 14}{1r} \rightarrow |m = \frac{r^2 + 14}{1r}|$$

$$x^r - \frac{r^2 + 14}{1r} + r = 0 \checkmark$$

1/10

$$m^r - m + m = 0$$

$$\alpha = r\beta$$

$$S_2 = \frac{-(-r)}{1} = \alpha + \beta \rightarrow r\beta = r \rightarrow \beta = 1, \alpha = r$$

$$p = m = \alpha \cdot \beta \rightarrow |m = r \cdot 1 = r|$$

$$x^r - r x + r = 0 \checkmark$$

1/10

$$m^r - Vm + r_2 = 0 \xrightarrow{m = \alpha} \alpha^r - V\alpha + r_2 = 0 \xrightarrow{-\alpha} \alpha - V + \frac{r}{\alpha} = 0 \rightarrow \alpha + \frac{r}{\alpha} = V$$

$$\xrightarrow{\text{Multiply}} \alpha^r + \frac{r}{\alpha} + \alpha = V\alpha \rightarrow \alpha^r + \frac{r}{\alpha} = V\alpha$$

$$\alpha^r + \frac{r}{\alpha} = \underbrace{\left(\alpha + \frac{r}{\alpha} \right)}_V \left(\alpha + \frac{r}{\alpha} - V \right) = V \times V = |V^2|$$

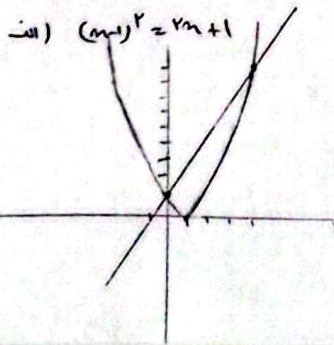
5

$$h(t) = -b t^r + \Delta_0 t$$

$$h_{\max} = \frac{-\Delta}{4a} = \frac{-(r\Delta_0 - 0)}{4(-1)} = |r\Delta_0|$$

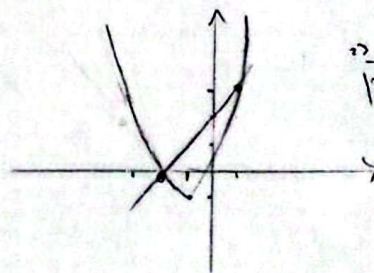
$$\text{في وقت } t = 0 \rightarrow -b t^r + \Delta_0 t = 0 \rightarrow -1 \cdot t^r + \Delta_0 t = 0 \rightarrow t = 0 \text{ و } t = \Delta_0$$

5



" m = 0
نقطة التماس
في (0,0)

$$m^r + m = |m + r|$$



في وقت
m = 0
نقطة التماس
في (0,0)

5