نام و نام خانوادگی ...... پاسخنامه تشریحی تکلیف شماره ۲۲ .... کلاس ۶ ....

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$x^2-5x+2=0$

$\alpha+\beta=5$

$\alpha\beta=2$

$\frac{4\alpha+\beta^5}{5\beta^2}$

$\beta^2=5\beta-2 \longrightarrow \beta^5=479\beta-210$

$5\beta-2=\beta^2$

$\alpha=5-\beta \longrightarrow 4\alpha=20-4\beta$

$4\alpha+\beta^5=(20-4\beta)+(479\beta-210)$

$=475\beta-190$

$=95(5\beta-2)$

$95\beta^2$

$\frac{95\beta^2}{5\beta^2}=\frac{95}{5}=19$

۲

$(3,-4)\ (-1.5,-4) \longrightarrow$ عرض یکسان

$x=\frac{3+(-1.5)}{2}=0.75 \xrightarrow{\times 2} \boxed{1.5}$

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$x^2+2kx+5=0$

$\frac{\sqrt{\Delta}}{|a|}=\sqrt{(2k)^2-20}=\frac{4}{3}k$

$4k^2-20=\frac{16}{9}k^2 \longrightarrow 36k^2-180=16k^2 \to 20k^2=180 \to k^2=9$

$\left[\frac{k^2}{2}\right]=\left[\frac{9}{2}\right]=\boxed{4}$

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$\alpha^2+\beta^2=(\alpha+\beta)^2-2\alpha\beta$

$(\alpha+\beta)^2-2\alpha\beta=5 \longrightarrow 4-2\alpha\beta=5 \to \alpha\beta=\boxed{-\frac{1}{2}}$

$x=\frac{3+(-5)}{2}=-1$

$\alpha+\beta=-2$

۵

$-x^2+5x+m=0$

$\Delta\geq 0$

$\Delta=(-5)^2-4(1)(-m)=25+4m \to 25+4m\geq 0 \to m\geq -\frac{25}{4} \xrightarrow{\text{صحیح}} \boxed{m\geq -6}$

$f(x)=x^2-5x-m$

$f(\frac{9}{2})=(\frac{9}{2})^2-5(\frac{9}{2})-m=\frac{81}{4}-\frac{45}{2}-m=\frac{81-90}{4}-m=-\frac{9}{4}-m$

$-\frac{9}{4}-m>0 \to -m>\frac{9}{4} \to m<-\frac{9}{4} \to m<-2.25$

صحیح $\boxed{m\leq -3}$

اشتراک دو شرط ! $-6\leq m\leq -3$ $\longrightarrow -6,-5,-4,-3 \longrightarrow$ $\boxed{\text{۴ مقدار}}$

$y = mx^2 - 12x + 5m - 1$

$m > 0$

$x = -\frac{b}{2a} \rightarrow a = m,\ b = -12 \quad x = \frac{12}{2m} = \frac{6}{m}$

$y_{min} = f(x) \rightarrow y = m\left(\frac{6}{m}\right)^2 - 12\left(\frac{6}{m}\right) + 5m - 1 = -\frac{36}{m} + 5m - 1 \xrightarrow{=2} -\frac{36}{m} + 5m - 1 = 0$

$-\frac{36}{m} + 5m - 3 = 0$

$\xrightarrow{\times m} -36 + 5m^2 - 3m = 0$

$\boxed{5m^2 - 3m - 36 = 0}$

$\Delta = (-3)^2 - 4(5)(-36) = 9 + 720 = 729$

$\sqrt{729} = 27 \quad m = \frac{3 \pm 27}{10} \rightarrow m = -\frac{12}{5},\ m = 3$

$m > 0 \rightarrow m = 3$

$x = \frac{6}{m} = \frac{6}{3} = \boxed{2}$ ۶

$x^2 + 2(a+1)x + 2a - 1 = 0$

$\left.\begin{array}{l} a^2 = \alpha\beta \\ \alpha\beta = 2a - 1 \end{array}\right\} \rightarrow a^2 = 2a - 1$

$a^2 - 2a + 1 = 0$

$(a-1)^2 = 0$

$a = \boxed{1}$ ۷

$x^4 - 7x^2 - 5 = 0 \xrightarrow{t = x^2} t^2 - 7t - 5 = 0 \longrightarrow P' = -5 < 0$

$\begin{cases} x^2 = t_1 > 0 \Rightarrow x_{1,2} = \pm\sqrt{t_1} \\ x^2 = t_2 < 0 \Rightarrow x \notin \mathbb{R} \end{cases} \Rightarrow \begin{cases} x_1 + x_2 = 0 \\ P = x_1 x_2 = \sqrt{t_1} \times (-\sqrt{t_1}) = -t_1 \rightarrow P^2 = t_1^2 \end{cases}$ ۸

$t^2 - 7t - 5 = 0 \longrightarrow t = \frac{7 \pm \sqrt{49 + 20}}{2} = \frac{7 \pm \sqrt{69}}{2} \longrightarrow t_1 = \frac{7 + \sqrt{69}}{2} \rightarrow P^2 = \frac{59 + 7\sqrt{69}}{2}$

$2P^2 - 2SP + 2S = 59 + 7\sqrt{69} - 0 + 0 = 59 + 7\sqrt{69}$

$y = kx^2 - 4x - 6$

$y = -4x - 4$

$x_r = -\frac{b}{2a} \xrightarrow[b = -4]{a = k} x_r = \frac{-(-4)}{2k} = \frac{4}{2k} = \frac{2}{k}$

$y_r = k\left(\frac{2}{k}\right)^2 - 4\left(\frac{2}{k}\right) - 6 = k\frac{4}{k^2} - \frac{8}{k} - 6 = \frac{4}{k} - \frac{8}{k} - 6 = \boxed{-\frac{4}{k} - 6}$

$y_r = -4x_r - 4 = -4\left(\frac{2}{k}\right) - 4 = \boxed{-\frac{8}{k} - 4}$

$-\frac{4}{k} - 6 = -\frac{8}{k} - 4 \longrightarrow \frac{4}{k} - 6 = -4$ ۹

$\frac{4}{k} = 2 \rightarrow k = 2$

$x_r = \frac{2}{2} = 1$

$y_r = -4(1) - 4 = \boxed{-8}$

$y = -mx^2 + mx + 1$

$y = -m - x$

$-mx^2 + mx + 1 = -m - x$

$-mx^2 + mx + 1 + m + x = 0$

$-mx^2 + (m+1)x + (m+1) = 0$

$\Delta < 0 \longrightarrow \Delta = b^2 - 4ac = (m+1)^2 - 4(-m)(m+1)$

$= (m+1)(5m+1)$

$a = -m$

$b = m+1$

$c = m+1$

$(m+1)(5m+1) < 0$ ۱۰

$m = -1 \quad m = -\frac{1}{5}$

$-1 < m < -\frac{1}{5} \longrightarrow \boxed{5}$