۱۵٫۷۵

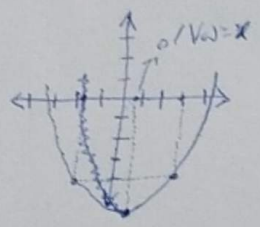
نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ..... کلاس .....

۱

$x^2-5x+2=0 \Rightarrow S=\frac{-b}{a}=\frac{5}{1}=5,\ P=\frac{c}{a}=\frac{2}{1}=2$

$\frac{2\alpha+\beta^3}{5\beta^2}=\frac{\alpha^3\beta^2+\beta^3}{5\beta^2}=\frac{\beta^2(\alpha^2+\beta^2)}{5\beta^2}=\frac{S^2-2P}{5}=\frac{125-30}{5}=19$ ✓

۲



$3+(-1/5)=1/5$

$\frac{1/5}{2}=0/75 \rightarrow$ عرض رأس سهمی

$0/75\times 2=1/5$ ✓

۲

۳

$x^2+2kx+5=0 \Rightarrow \begin{cases} S=\alpha+\beta=\frac{-b}{a}=-2k \\ P=\alpha\beta=\frac{c}{a}=5 \end{cases}$

$\rightarrow \frac{-2k-\frac{3}{2}k}{2}=\frac{-\frac{10}{2}k}{2}=-\frac{5}{4}k=\alpha \Rightarrow \beta=-\frac{5}{4}k+\frac{3}{2}k=-\frac{1}{4}k$

$\Rightarrow P=\alpha\beta=5 \Rightarrow (-\frac{5}{4}k)(-\frac{1}{4}k)=5 \Rightarrow \frac{5}{16}k^2=5 \Rightarrow k^2=16$

$\rightarrow \left[\frac{k^2}{2}\right]=\left[\frac{16}{2}\right]=[4]$ ✓

۲

۴

$\frac{-5+3}{2}=-1=$ طول رأس سهمی

$\alpha^2+\beta^2=5 \Rightarrow S^2-2P=5 \Rightarrow 4-2P=5 \Rightarrow -2P=1 \Rightarrow P=\frac{-1}{2}=\frac{c}{a} \Rightarrow -a=2c \Rightarrow c=\frac{-a}{2}$

$S=-2=\frac{-b}{a} \Rightarrow -2a=-b \Rightarrow 2a=b$

$\rightarrow y=ax^2+2ax-\frac{a}{2} \xrightarrow{x=-1} 1=a-2a-\frac{a}{2} \Rightarrow 1=-a-\frac{a}{2} \Rightarrow 1=\frac{-2a-a}{2} \Rightarrow 1=\frac{-3a}{2} \Rightarrow a=\frac{-2}{3}$

$\rightarrow y=\frac{-2}{3}x^2-\frac{4}{3}x+\frac{1}{3} \xrightarrow{x=0} y=\frac{1}{3}$ ✓

۲

۵

$\Delta>0 \Rightarrow 25+4m>0 \Rightarrow 4m>-25 \Rightarrow m>\frac{-25}{4}$

$f(\frac{9}{2})<0 \Rightarrow \frac{-81}{4}+\frac{45}{2}+m<0 \Rightarrow \frac{-81+90}{4}+m<0 \Rightarrow \frac{9}{4}+m<0 \Rightarrow m<\frac{-9}{4}$

۱٫۷۵

$\cap \Rightarrow \frac{-25}{4}<m<\frac{-9}{4} \Rightarrow m=\{-6,-5,-4,-3\}$

۴ مقدار صحیح ← ✗

$mx^2-12x+5m-1-2 = mx^2-12x+5m-3=y$ عرض از مبدا برابر صفر شود پس یک ریشه دارد و Δ برابر صفر شود $\to \Delta = 144-4(5m^2-3m)=0 \Rightarrow 144-20m^2+12m=0$ $\Rightarrow -20m^2+12m+144=0 \to \Delta' = 144-4(-2880)=144+11520=11664 \Rightarrow \sqrt{\Delta}=108$ $\to \frac{-12\pm108}{-40} =$ ($+ \to \frac{96}{-40}=-2/4$ ✗) ($- \to \frac{-120}{-40}=3$ ✓) $\Rightarrow m=3 \to 3x^2-12x+12=0 \Rightarrow x=2 \Rightarrow$ ~~محور تقارن $= x \neq 2$~~ $\Rightarrow$ محور تقارن $\to$ $\boxed{x=2}$ ✓ (2)	6
$\alpha, a, \beta \to a', a'q, a'q^2 \Rightarrow a'q=\sqrt{a' \times a'q^2} \Rightarrow a=\sqrt{\alpha\beta}=\sqrt{P}=\sqrt{\frac{c}{a}}=\sqrt{2a-1} \Rightarrow a^2-2a+1=0$ $\Rightarrow (a-1)^2=0 \Rightarrow a-1=0 \Rightarrow \boxed{a=1}$ ✓ (2)	7
~~$x^4-7x^2-5=0$~~ $\quad x'+x''=S \ , \ x'.x''=P$ $x^2=t \to t^2-7t-5=0 \to t=\frac{7\pm\sqrt{69}}{2} \to x^2=\frac{7+\sqrt{69}}{2}$ ق‌ق $x=\pm\sqrt{\frac{7+\sqrt{69}}{2}} \to S=0 \ , \ P=-\frac{7+\sqrt{69}}{2}$ $4P^2-4SP+4S=4\left(-\frac{7+\sqrt{69}}{2}\right)^2=\frac{1}{4}(49+69+14\sqrt{69})=59+7\sqrt{69}$ (0)	8
$y=Kx^2-4x-6 \to$ $x=\frac{-b}{2a}=\frac{4}{2K}=\frac{2}{K}$; $y=\frac{-\Delta}{4a}=\frac{-16-24K}{4K}=-6-\frac{4}{K}=\boxed{-8}$ ✓ $y=-4x-4 \to -6-\frac{4}{K}=-\frac{8}{K}-4 \Rightarrow -2=-\frac{8}{K}+\frac{4}{K}=-\frac{4}{K} \Rightarrow \frac{4}{K}=2 \Rightarrow K=2$ $\Delta=16-4(-6K)=16-24K$ (2)	9
$m>0 \to$ ∩ $\Rightarrow \frac{m}{4}+1 < -m \Rightarrow \frac{5}{4}m<-1 \Rightarrow m<\frac{-4}{5}$; $\frac{-\Delta}{4a}=\frac{m}{4}+1$ $m<0 \to$ ∪ $\Rightarrow \frac{m}{4}-1>m \Rightarrow \frac{5}{4}m>1 \Rightarrow m>\frac{4}{5}$; $\frac{-\Delta}{4a}=\frac{m}{4}-1$ $\Rightarrow \frac{4}{5}<m<\frac{-4}{5} \Rightarrow$ حدود mها حل بین‌ها عدد صحیح است (0)	10

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

$\Delta<0 \to (m+1)^2+4(m)(m+1)<0 \to 5m^2+6m+1<0$

$a+c=b \to (m+1)(5m+1)<0$ $\xrightarrow{\text{تعیین علامت}}$ $-1 \quad -\frac{1}{5}$: $+ \mid - \mid +$ $\to -1<m<-\frac{1}{5} \to$ صفر عدد صحیح

Scanned with CamScanner