سارینا شبانیان

۱۷٫۷۵

① $-\frac{b}{a}=5 \quad P=\alpha\beta=2$

$\alpha\beta=2 \quad \beta=2/\alpha \quad \beta^2=4/\alpha^2$

$\frac{4\alpha+\beta^5}{5\beta^2} \to 4/5 \times \frac{\alpha}{\beta^2}+\frac{\beta^3}{5}=4/5\times\frac{\alpha^3}{4}+\beta^3/5$

$\frac{\alpha^3+\beta^3}{5} \quad \frac{S^3-3SP}{5}=\frac{(5)^3-3(5)(2)}{5}=95/5=\boxed{19}$ ✓

۲

② $3+(-1,5)=\boxed{1,5}$ ✓

۲

③ $\frac{-\Delta}{4a}=4/3k \quad \frac{-4k^2+20}{4}=4/3k$

۱٫۷۵

$-12k^2+60=16k \quad -3k^2-4k+15=0$

$16+180=196$

$\frac{4\pm14}{6} \to k=3 \quad k=-10/6 \times \quad \left(\frac{k^2}{2}\right)=9/2=4,5$ ✓

$\left[\frac{k^2}{2}\right]=[4,5]=4$

صورت سوال را بادقت بخوان!

④ $\alpha S=\frac{-5+3}{2}=-1=-\frac{b}{2a} \to -b/a=-2=S \quad (y-1)=a(x-(-1))^2$

$y=ax^2+2ax+a+1 \quad \alpha^2+\beta^2=5 \to S^2-2P=5 \to 4-2\left(\frac{a+1}{a}\right)=5$

$4-\frac{2a+2}{a}=5 \to \frac{-2a-2}{a}=1 \quad a=-2/3 \quad a+1=-2/3+1=\boxed{1/3}$ ✓

۲

⑤ $-x^2+5x+m=0$

$\Delta=25+4m\geq0 \quad m\geq-6,25 \quad m\geq-6 \qquad -6\leq m<-2$

$\{-6,-5,-4,-3\}\to 4$ ✓

۲

$\frac{-b}{2a}=-5/-2=2,5 \to 2,5<9/2$

$-(4,5)^2+5(4,5)+m \to 2,25+m<0 \to m<-2,25 \quad m<-2,25 \quad m<-2$

⑥ $m>0 \quad \frac{-b}{2a}=\frac{12}{2m}=6/m$

$y=6/m\, m^2-12(6/m)+5m-1$

۲ $\quad m=3$ ✓

$y=\frac{36}{m}-\frac{72}{m}+5m-1=\frac{-36}{m}+5m-1=2 \quad \frac{-36}{m}+5m-3=0 \quad 5m^2-3m-36$

⑦ $\alpha^2+(2a+2)\alpha+2a-1=0$

$\frac{-2a-2-2\sqrt{a^2+2}}{2}=a \to a=1 \quad x^2+4x+1 \xrightarrow{\Delta>0}$

$-(a+1+\sqrt{a^2+2})2=a \quad a^2=(a+1)^2-(a^2+2)$

$a2=-(a+-\sqrt{a^2+2})$ [?] $\quad a^2=a^2+2a+1-a^2-2$ ✓

۲

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

⑧ $x^2=t \quad t^2-7t-5=0 \quad t\geq0$

$=\frac{7\pm\sqrt{49+20}}{2}=\frac{7\pm\sqrt{69}}{2} \quad \frac{7+\sqrt{69}}{2}>0$ ✓

$\frac{7-\sqrt{69}}{2}<0$

$P^2-4SP+PS \to 2P^2=2\times\frac{49+69+14\sqrt{69}}{4}=59+7\sqrt{69}$ ✓

۲

(۹) ?

(۱۰) $-m - x = -mx + m + 1$

$m \neq 0$

$\Delta < 0$

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

$m^2 + 1 + 2m + 4m^2 + 4m = 5m^2 + 6m + 1$ → -1 → نیست ۰

→ $-1/5$ ✓

۹

راس سهمی: $x_S = \frac{-b}{2a} = \frac{4}{2k} = \boxed{\frac{2}{k}}$

$y_S = k(\frac{2}{k})^2 - 4(\frac{2}{k}) - 4 = \frac{4}{k} - \frac{8}{k} - 4 = \boxed{-\frac{4}{k} - 4}$

$-\frac{4}{k} - 4 = -4(\frac{2}{k}) - 4 \rightsquigarrow \frac{4}{k} = 2 \rightarrow \boxed{k = 2}$

عرض سهمی: $= -\frac{4}{k} - 4 = -2 - 4 = \boxed{-8}$