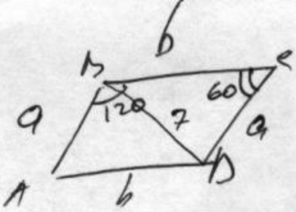

$b-a=3 \Rightarrow b=a+3$

по т. cos: $BD^2=b^2+a^2-2ab\cos 60^\circ$

$7^2=(a+3)^2+a^2-2a(a+3)\cdot\frac{1}{2} \Rightarrow$

$a^2+6a+9+a^2-a^2-3a-49=0$

$a^2+3a-40=0$.

по Виета

$a=-8$; $a=5$

$b=5+3=8$

$P=2a+2b=2\cdot5+2\cdot8=26$

031: $\sqrt{2}\cdot\sin\frac{7\pi}{8}\cdot\cos\frac{7\pi}{8}=\frac{2\sqrt{2}}{2}\cdot\sin\frac{7\pi}{8}\cdot\cos\frac{7\pi}{8}=\frac{\sqrt{2}}{2}\cdot\sin\left(2\cdot\frac{7\pi}{8}\right)=\frac{\sqrt{2}}{2}\sin\left(\frac{7\pi}{4}\right)=$

$\sin 2\alpha=2\cos\alpha\sin\alpha$

$=\frac{\sqrt{2}}{2}\cdot\left(-\frac{\sqrt{2}}{2}\right)=-\frac{1}{2}=-0,5$

$\frac{7\pi}{4}$ $\sin<0$

по ф-ле сложения

043: $\sin3\alpha\cos2\alpha+\sin2\alpha\cos3\alpha=\sin3\alpha\cos2\alpha+\cos3\alpha\cdot\sin2\alpha=$

$=\sin(3\alpha+2\alpha)=\sin5\alpha+\sin(\pi+5\alpha)=\sin5\alpha-\sin5\alpha=0$

035: $\frac{15}{\sin^2 39+\cos^2 39+1}=\frac{15}{2}=7,5$ $\sin 129^\circ=$ ~~sin(180-...)~~

$\sin^2 39+\cos^2 39=1$

$\sin(90+39)=\cos 39$

048: $\frac{2}{\sin\frac{\pi}{4}\cos\alpha+\cos\frac{\pi}{4}\sin\alpha+3}=\frac{2}{\sin(\frac{\pi}{4}+\alpha)}$

Наибольшее будет знач-е, если знаменатель будет наименьшим, т.е. $\Rightarrow$

$\frac{\sqrt{2}}{2}(\cos\alpha+\sin\alpha)$ $[-1;1]$ $[-1;1]$

$\cos\alpha=\frac{\pi}{4}$ $\cos\frac{\pi}{4}=\frac{\sqrt{2}}{2}$

$\sin\alpha$ $\sin\frac{\pi}{4}=\frac{\sqrt{2}}{2}$

Ответ

$\frac{\sqrt{2}}{2}(\cos\alpha+\sin\alpha)=\frac{\sqrt{2}}{2}\cdot\left(\frac{\sqrt{2}}{2}+\frac{\sqrt{2}}{2}\right)=$

$=\frac{\sqrt{2}\cdot2\cdot\sqrt{2}}{2\cdot2}=1$

$\frac{2}{1+3}=\frac{2}{4}=\frac{1}{2}=0,5$

044: ~~$\cos\alpha = \cos^2\frac{\alpha}{2}$~~

$2\cos\alpha=1+\cos2\alpha$

$\cos^2\frac{\alpha}{2}=\frac{1+\cos\alpha}{2}=\frac{1-\frac{7}{25}}{2}=\frac{18}{25\cdot2}=\frac{9}{25}$

$\frac{\pi}{4}<\frac{\alpha}{2}<\frac{\pi}{2}$

$\cos\frac{\alpha}{2}=\sqrt{\frac{9}{25}}=\frac{3}{5}=0,6$