

ТРИГОНОМЕТРИСКЕ ФУНКЦИЈЕ  
ПОЛУЧГЛОВА

1.  $|\sin \frac{\alpha}{2}| = \sqrt{\frac{1 - \cos \alpha}{2}}$
2.  $|\cos \frac{\alpha}{2}| = \sqrt{\frac{1 + \cos \alpha}{2}}$
3.  $|\operatorname{tg} \frac{\alpha}{2}| = \sqrt{\frac{1 - \cos \alpha}{1 + \cos \alpha}}$
4.  $|\operatorname{ctg} \frac{\alpha}{2}| = \sqrt{\frac{1 + \cos \alpha}{1 - \cos \alpha}}$

730.  $\sin \alpha = -\frac{4\sqrt{2}}{9}, \alpha \in (\pi, \frac{3\pi}{2})$   
 $\sin \frac{\alpha}{2} = ? \cos \frac{\alpha}{2} = ?$   
 $\cos^2 \alpha = \frac{49}{81}$   
 $\cos \alpha = -\frac{7}{9}$   
 $\sin^2 \alpha + \cos^2 \alpha = 1$   
 $(-\frac{4\sqrt{2}}{9})^2 + \cos^2 \alpha = 1$

733. 5)  $4 \sin \frac{\alpha}{2} \cos \frac{\alpha}{2} (\cos^2 \frac{\alpha}{2} - \sin^2 \frac{\alpha}{2})$   
 $2 \cdot \sin \alpha \cdot \cos \alpha = \sin 2\alpha$   
 $2 \sin \frac{\alpha}{2} \cdot \cos \frac{\alpha}{2} = \sin 2 \cdot \frac{\alpha}{2} = \sin \alpha$

$\frac{16 \cdot 2}{81} + \cos^2 \alpha = 1$   
 $\cos^2 \alpha = 1 - \frac{32}{81}$   
 $\sin \frac{\alpha}{2} = \sqrt{\frac{1 - \frac{7}{9}}{2}} = \sqrt{\frac{\frac{2}{9}}{2}} = \sqrt{\frac{1}{9}}$

Написати ф-ле за правоуг  
 угла триг. ф-ја.  
 Омаћи: 732. 733. Г)

$\sin \frac{\alpha}{2} = \frac{1}{3}$   
 $\sin^2 \frac{\alpha}{2} + \cos^2 \frac{\alpha}{2} = 1$   
 $(\frac{1}{3})^2 + (\cos \frac{\alpha}{2})^2 = 1$   
 $(\cos \frac{\alpha}{2})^2 = 1 - \frac{1}{9}$   
 $(\cos \frac{\alpha}{2})^2 = \frac{8}{9} \Rightarrow \cos \frac{\alpha}{2} = \frac{2\sqrt{2}}{3}$