

### 3.MS – DÚ ě. 2 - GONIOMETRICKÉ ROVNICE A VÝRAZY

1. a)  $\cos\left(3x + \frac{\pi}{2}\right) = \frac{\sqrt{2}}{2}$   
b)  $2 \cdot \frac{\cos x + 1}{3} - \frac{4 \cdot \cos x - 1}{2} = 1 - \cos x$   
c)  $\frac{1}{\cos^2 x} - \operatorname{tg}^2 x = 1$   
d)  $2 \cdot \sin^2 x + 7 \cdot \cos x - 5 = 0$   
e)  $2 \cdot \sin^2 x + 5 \cdot \sin x = 3$   
f)  $\sin x \cdot \cos x = 0$

2. Řešte rovnice :

- a)  $3 \cdot \sin x = 8 \cdot \cot gx$   
b)  $2 \cdot \operatorname{tg} x + 3 \cdot \cot gx = 5$   
c)  $\sin^2 x = 3 \cdot \cos x$   
d)  $2 \cdot \cot g^2 x = 3 \cdot \cot gx - 1$

3. Upravte výrazy:

- a)  $\frac{\sin 2x - \cos x}{1 - \cos^2 x - \sin x} =$   
b)  $\frac{\cos^2 x}{1 + \sin x} =$   
c)  $\cos 2x + \sin 2x \cdot \operatorname{tg} x =$   
d)  $\frac{\sin 2x}{1 + \cos 2x} + \frac{1 - \cos^2 x}{\sin 2x} =$   
e)  $\frac{1 - \operatorname{tg}^2 x}{1 + \operatorname{tg}^2 x} =$

4. Vypočtete :

- a)  $\sin \frac{5}{4} \pi - \cos \frac{4}{3} \pi + \operatorname{tg} \frac{5}{3} \pi - \cot g \frac{11}{6} \pi =$   
b)  $\left[ 1,3^{-1} \div \left( \frac{169}{25} \right)^{-\frac{1}{2}} \right] \cdot \cos 120^\circ + \frac{1}{4} \cdot \left( -\frac{1}{2} \right)^{-2} \cdot \operatorname{tg} 225^\circ =$