9.

$$2\sin^2 x + 4\sin x\cos x - 4\cos^2 x = 1$$

$$\downarrow$$

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

$$2\sin^2 x + 4\sin x\cos x - 4\cos^2 x = \sin^2 x + \cos^2 x$$

$$2\sin^2 x - \sin x + 4\sin x\cdot\cos x - 4\cos^2 x - \cos^2 x = 0$$

sada treba prepoznati da se radi o homogenoj jednadžbi:

$$\sin^2 x + 4\sin x\cdot\cos x - 5\cos^2 x = 0 \quad \Big/ \cdot\frac{1}{\cos^2 x}$$

pa jednadžbu podjelimo sa: $(\cos^2 x)$

$$\frac{\sin^2 x}{\cos^2 x} + \frac{4\sin x\cos x}{\cos^2 x} - \frac{5\cos^2 x}{\cos^2 x} = 0$$

nakon kraćenja i sređivanja dobijemo:

$$\mathrm{tg}^2 x + \frac{4\sin x}{\cos x} - 5 = 0$$

$$\mathrm{tg}^2 x + 4\,\mathrm{tg}\, x - 5 = 0$$

$$\mathrm{tg}_{1,2} = \frac{-4\pm\sqrt{4^2 - 4\cdot 1\cdot(-5)}}{2\cdot 1} = \frac{-4\pm\sqrt{16+20}}{2} = \frac{-4\pm\sqrt{36}}{2}$$

$$\mathrm{tg}\, x = \frac{-4+6}{2} = \frac{2}{2} = 1 \qquad \mathrm{tg}\, x = \frac{-4-6}{2} = \frac{-10}{2} = -5$$

$$\mathrm{tg}\, x = 1 \qquad \mathrm{tg}\, x = -5$$

$$x = \frac{\pi}{4} + k\pi \qquad x = -78°41'24'' + k\pi$$

Za one kojima ovo nije dovoljno
dodatna video uputa uz ovaj zadatak nalazi se ovdje >>>