$3\sin^2 x - 6\sin x \cos x + 5\cos^2 x = 0 \quad : \cos^2 x \neq 0$

$\operatorname{tg}^2 x - 6\operatorname{tg} x + 5 = 0.$

$D = 36 - 20 = 16.$

$\operatorname{tg} x = \frac{6+4}{2} = 5 \qquad x = \operatorname{arctg} 5 + \pi n,$

$\operatorname{tg} x = \frac{6-4}{2} = 1. \qquad x = \operatorname{arctg} 1 + \pi n, \; n \in \mathbb{Z}$

Ответ: $\operatorname{arctg} 5 + \pi n; \; \frac{\pi}{4} + \pi n, \; n \in \mathbb{Z}$