

## Теория:

Пример.  $\sin 15^\circ$ .

$$\begin{aligned}\sin 15^\circ &= \sin(45^\circ - 30^\circ) = \sin 45^\circ \cdot \cos 30^\circ - \sin 30^\circ \cdot \cos 45^\circ = \\ &= \frac{\sqrt{2}}{2} \cdot \frac{\sqrt{3}}{2} - \frac{1}{2} \cdot \frac{\sqrt{2}}{2} = \frac{\sqrt{6}-\sqrt{2}}{4}.\end{aligned}$$

Пример.  $\frac{\sin 23^\circ \cos 37^\circ + \cos 23^\circ \sin 37^\circ}{\cos 71^\circ \cos 11^\circ + \sin 71^\circ \sin 11^\circ} = \frac{\sin(23^\circ+37^\circ)}{\cos(71^\circ-11^\circ)} = \operatorname{tg} 60^\circ = \sqrt{3}$ .

Пример.  $\sin 3\alpha - \operatorname{tg} \alpha \cdot \cos 3\alpha = \frac{\sin 3\alpha \cos \alpha - \sin \alpha \cos 3\alpha}{\sin \alpha} = \frac{\sin 2\alpha}{\sin \alpha}$ .