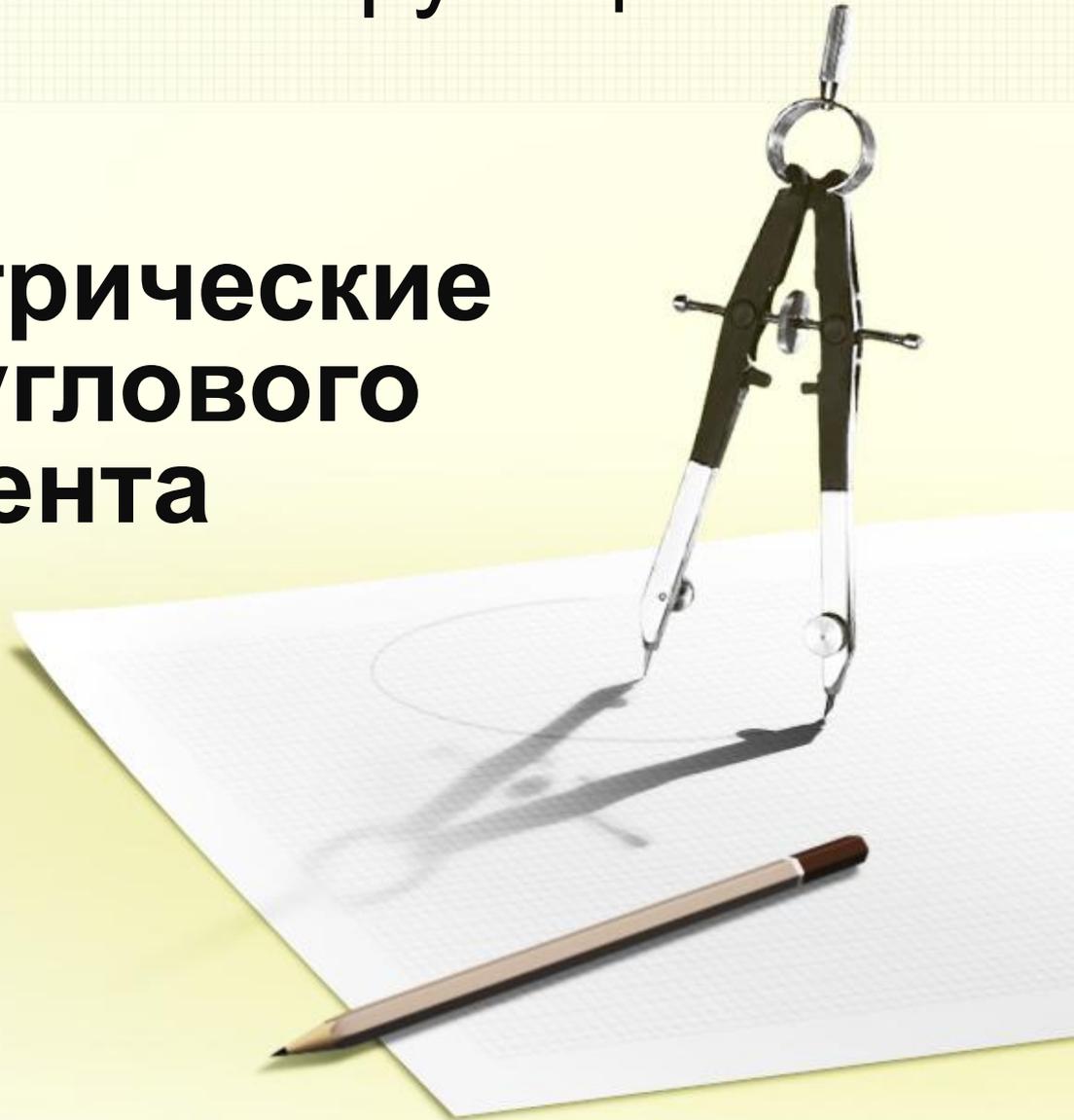
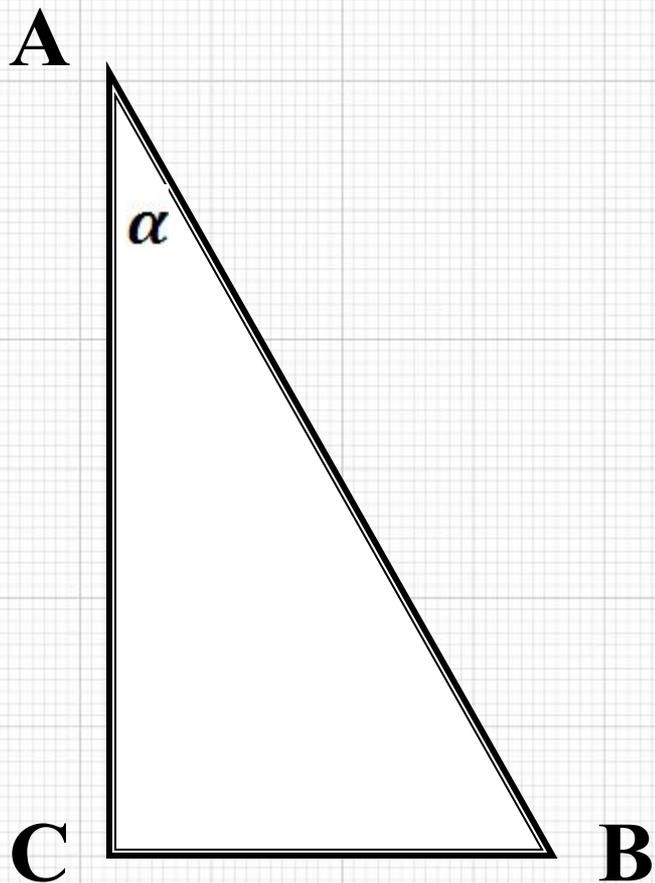


Тригонометрические функции

Тригонометрические функции углового аргумента

Нигматуллин Радий Радиевич
МБОУ СШ №24 а. Шенджий,
Республика Адыгея





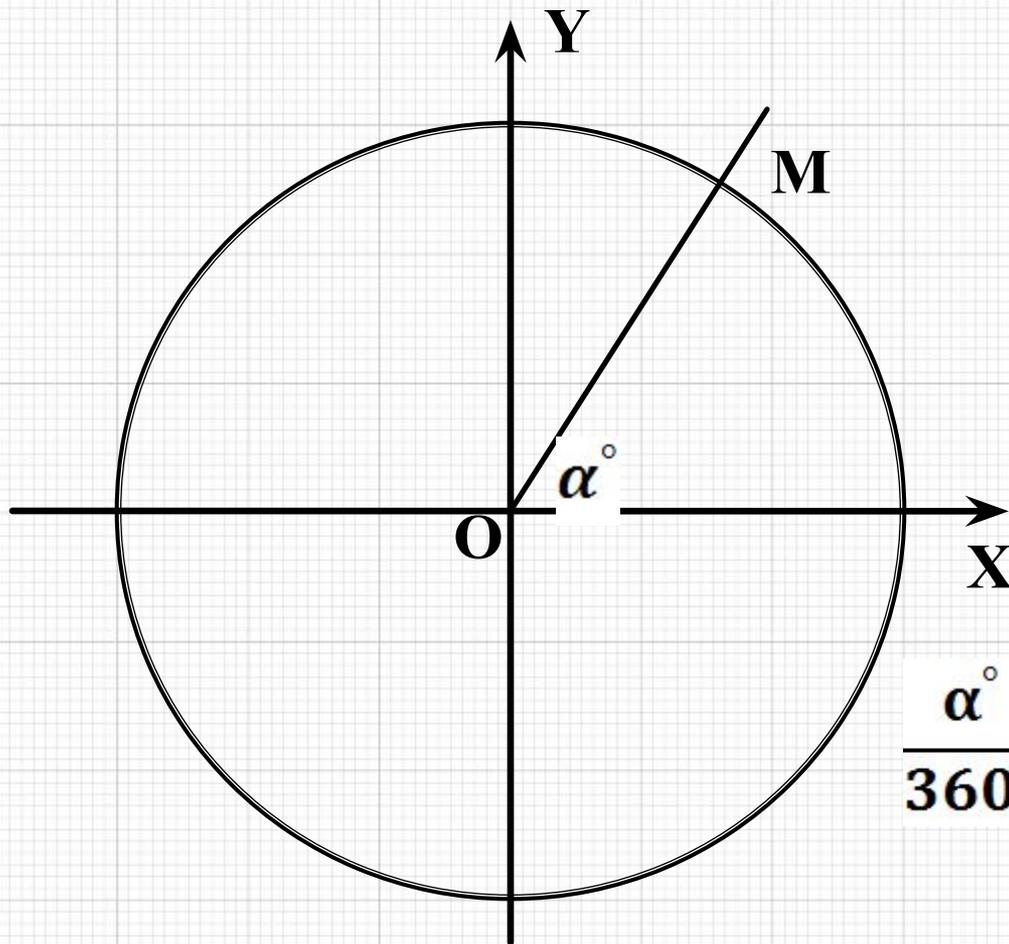
$$\sin \alpha = \frac{BC}{AB}$$

$$\cos \alpha = \frac{AC}{AB}$$

$$\operatorname{tg} \alpha = \frac{BC}{AC}$$

$$\operatorname{ctg} \alpha = \frac{AC}{BC}$$





$$M(\cos \alpha; \sin \alpha)$$

$$\cup AM = t$$

$$\frac{\alpha^\circ}{360^\circ} = \frac{t}{2\pi} \Rightarrow t = \frac{2\pi\alpha}{360} = \frac{\pi\alpha}{180}$$

$$\sin \alpha^\circ = \sin t = \sin \frac{\pi\alpha}{180}$$

$$\cos \alpha^\circ = \cos t = \cos \frac{\pi\alpha}{180}$$


$$\sin 30^\circ = \sin \frac{\pi \cdot 30}{180} = \sin \frac{\pi}{6} = \frac{1}{2}$$

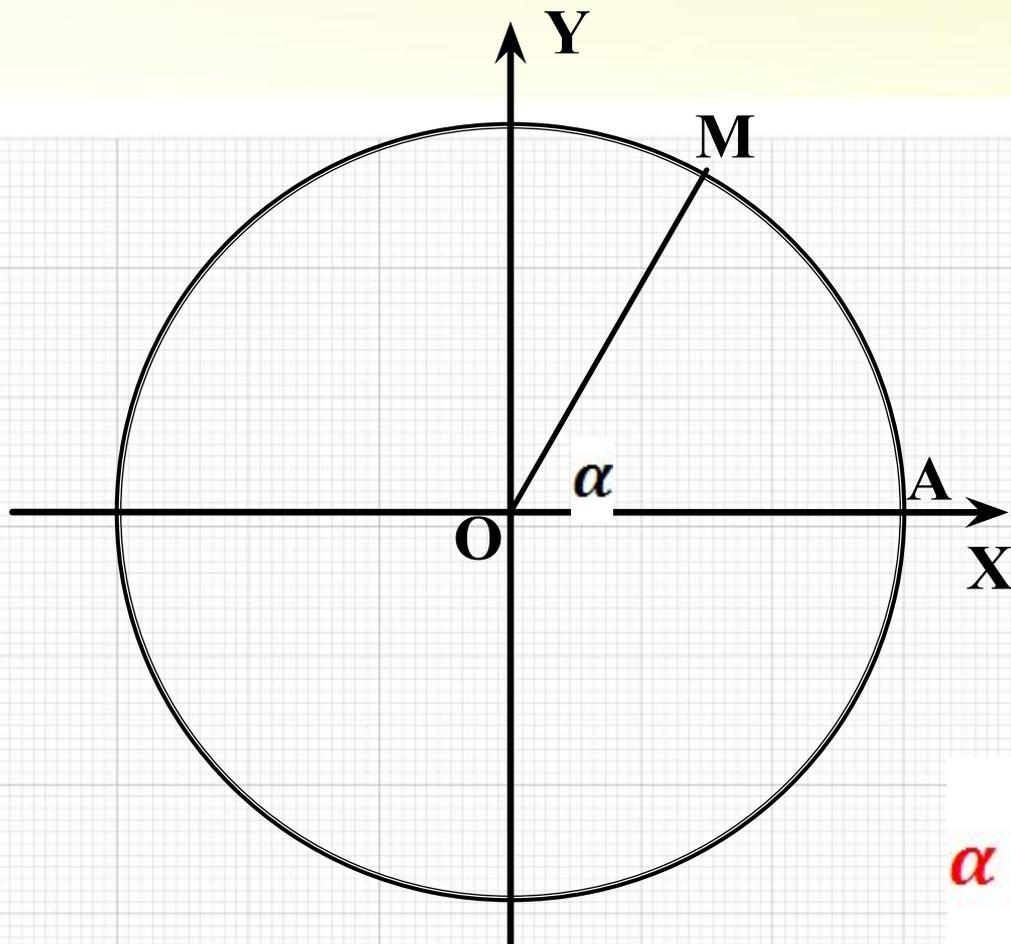
$$\cos 45^\circ = \cos \frac{\pi \cdot 45}{180} = \cos \frac{\pi}{4} = \frac{\sqrt{2}}{2}$$


$$\alpha^{\circ} = \frac{\pi \alpha}{180} \text{rad}$$

$$1^{\circ} = \frac{\pi}{180} \text{rad}$$

$$1 \text{rad} = \frac{180^{\circ}}{\pi}$$

$$35^{\circ} = \frac{\pi}{180} \cdot 35 = \frac{7\pi}{36} \text{rad} \quad \frac{2\pi}{3} \text{rad} = \frac{180^{\circ}}{\pi} \cdot \frac{2\pi}{3} = 120^{\circ}$$



$$1^{\circ} = \frac{1}{360}$$

$$AM = OM = 1$$

$$\alpha = 1 \text{ рад} = \frac{180^{\circ}}{\pi} \approx 57,3^{\circ}$$

Угол в 1 радиан – это центральный угол, опирающийся на дугу длиной 1, т.е. на дугу, длина которой равна радиусу окружности.