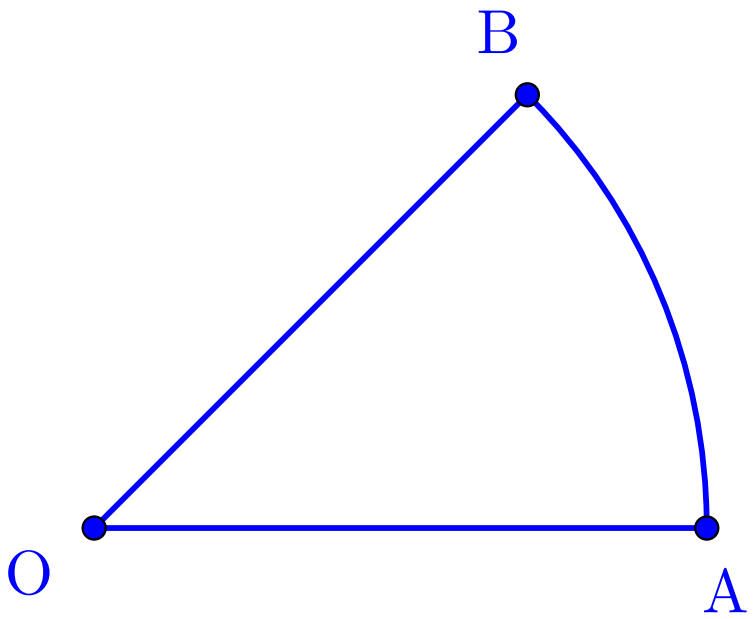
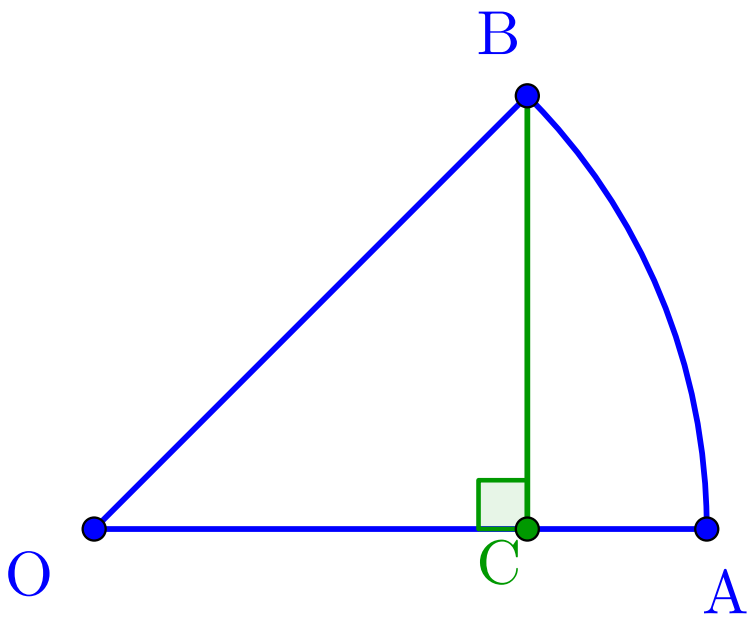
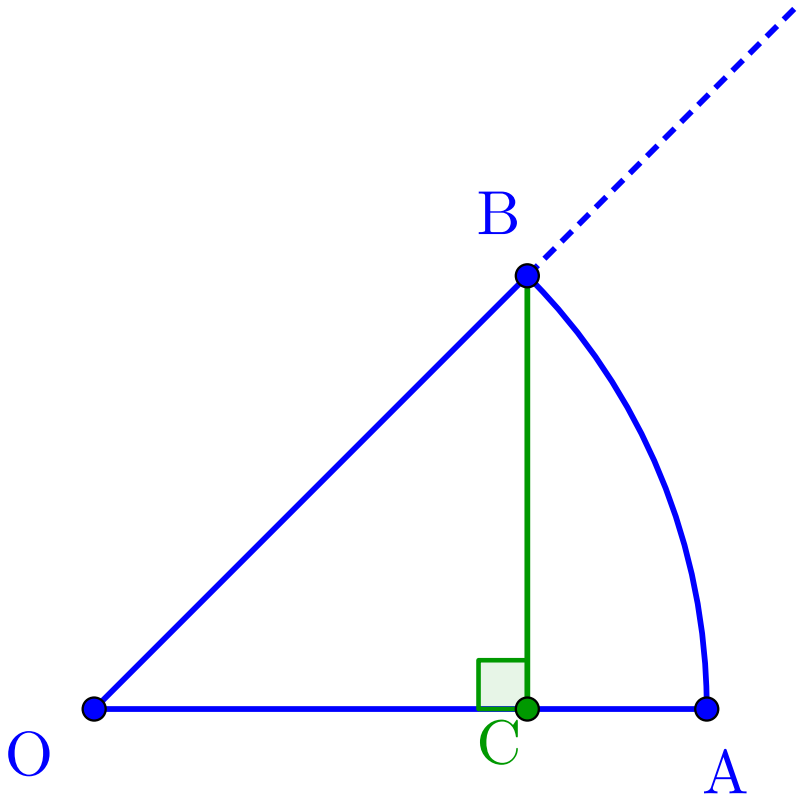
$$\lim_{\theta \to 0} \frac{\sin \theta}{\theta} = 1$$

$$\lim_{\theta \to 0} \frac{\sin \theta}{\theta} = 1$$

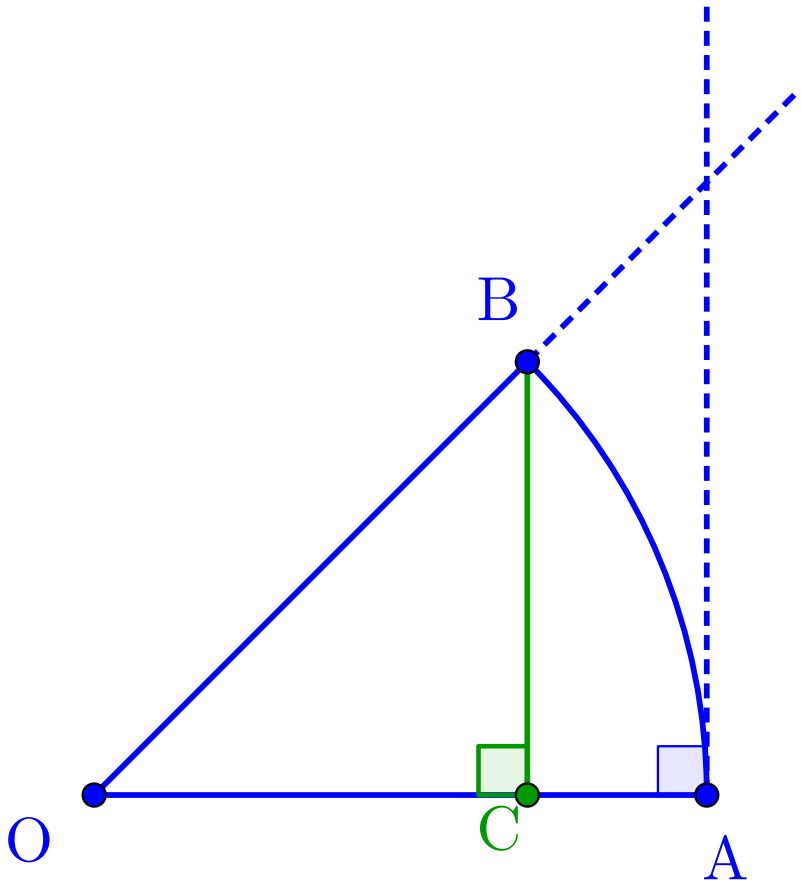

B
O
A

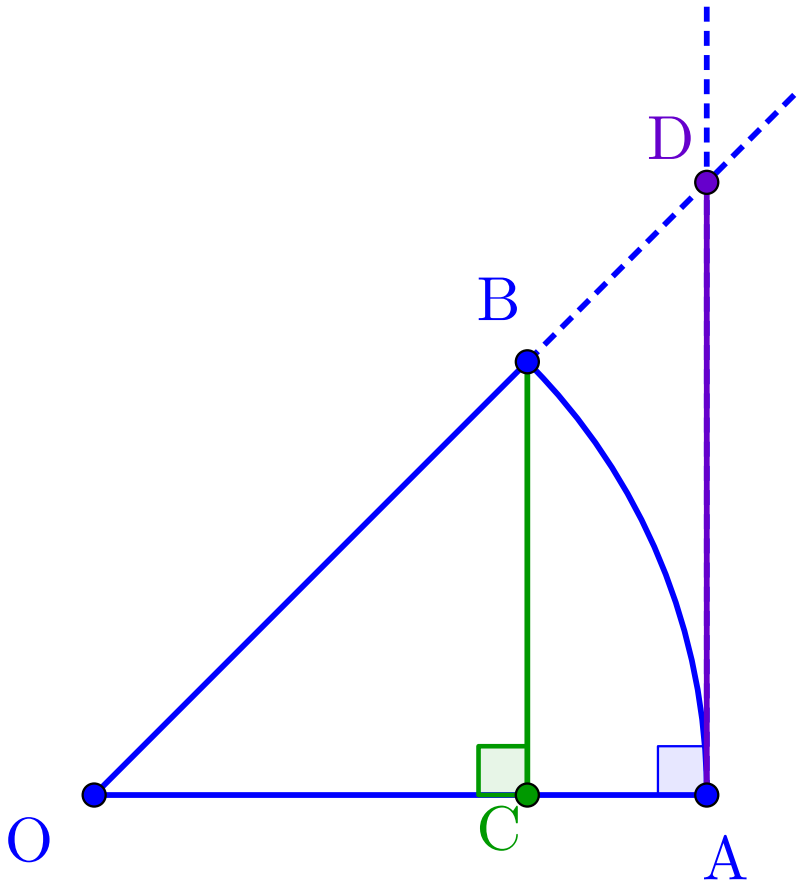
$$\lim_{\theta \to 0} \frac{\sin \theta}{\theta} = 1$$



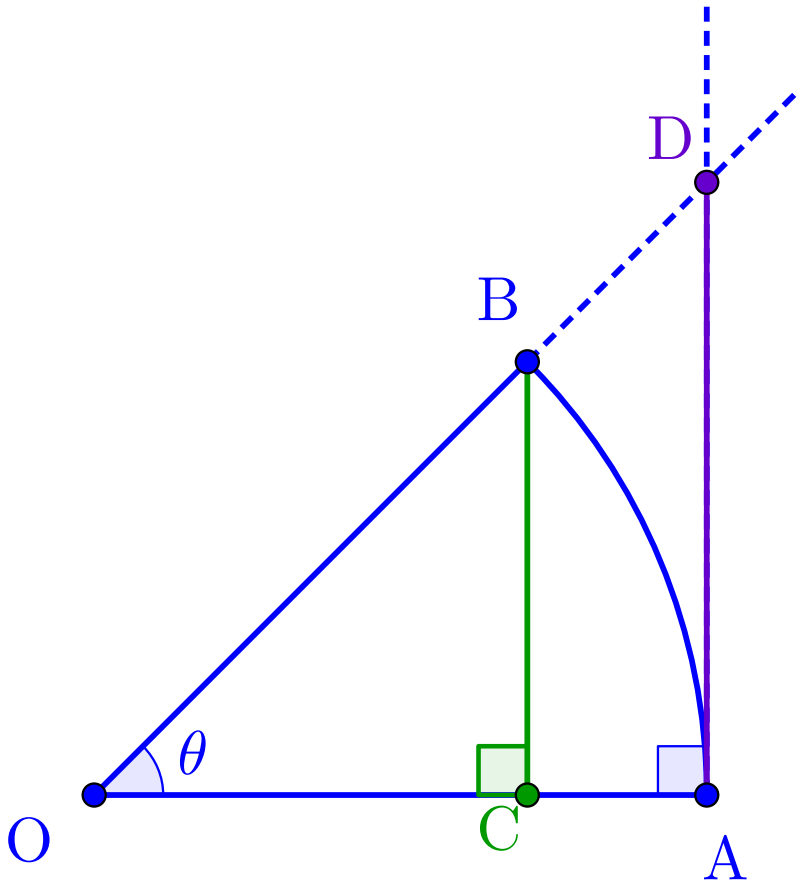

B
O
C
A

$$\lim_{\theta \to 0} \frac{\sin \theta}{\theta} = 1$$

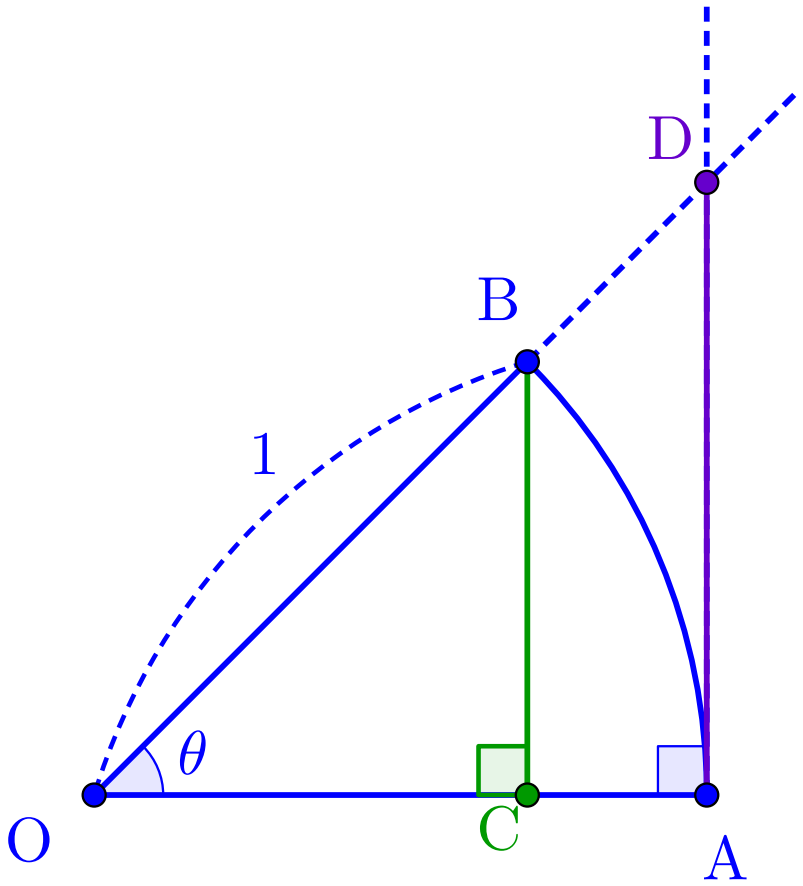


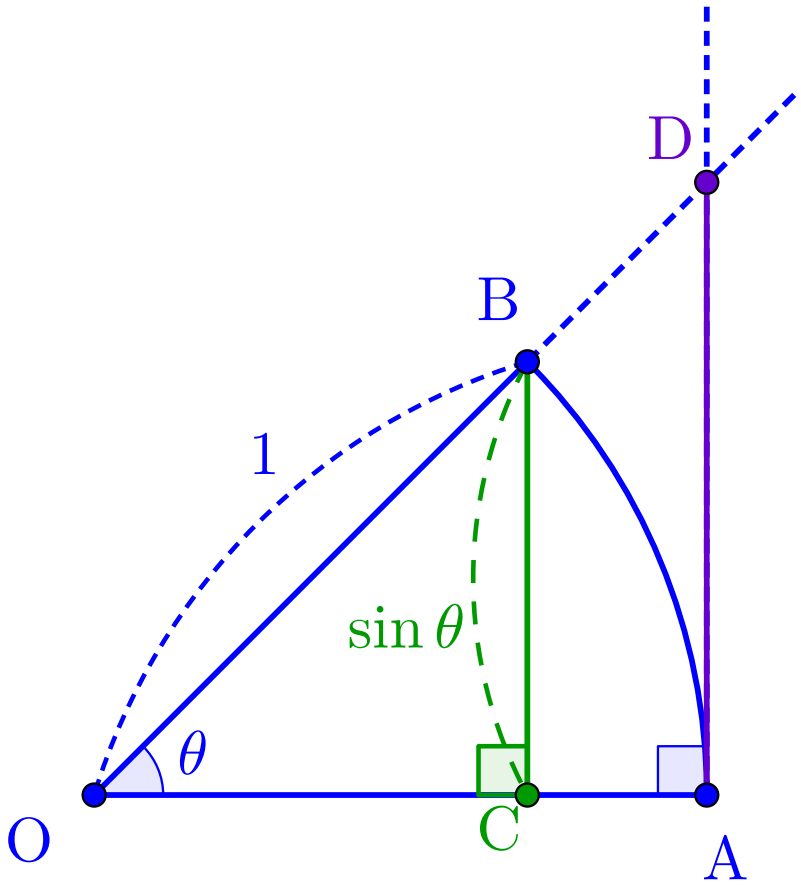

D
B
O
C
A

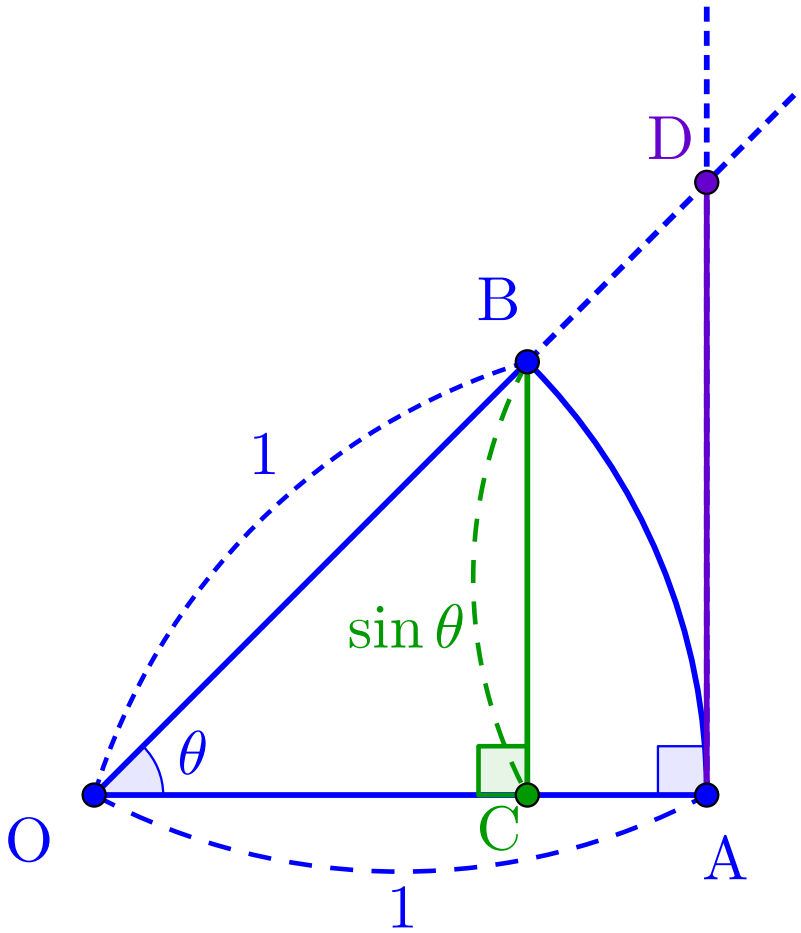
$$\lim_{\theta \to 0} \frac{\sin \theta}{\theta} = 1$$

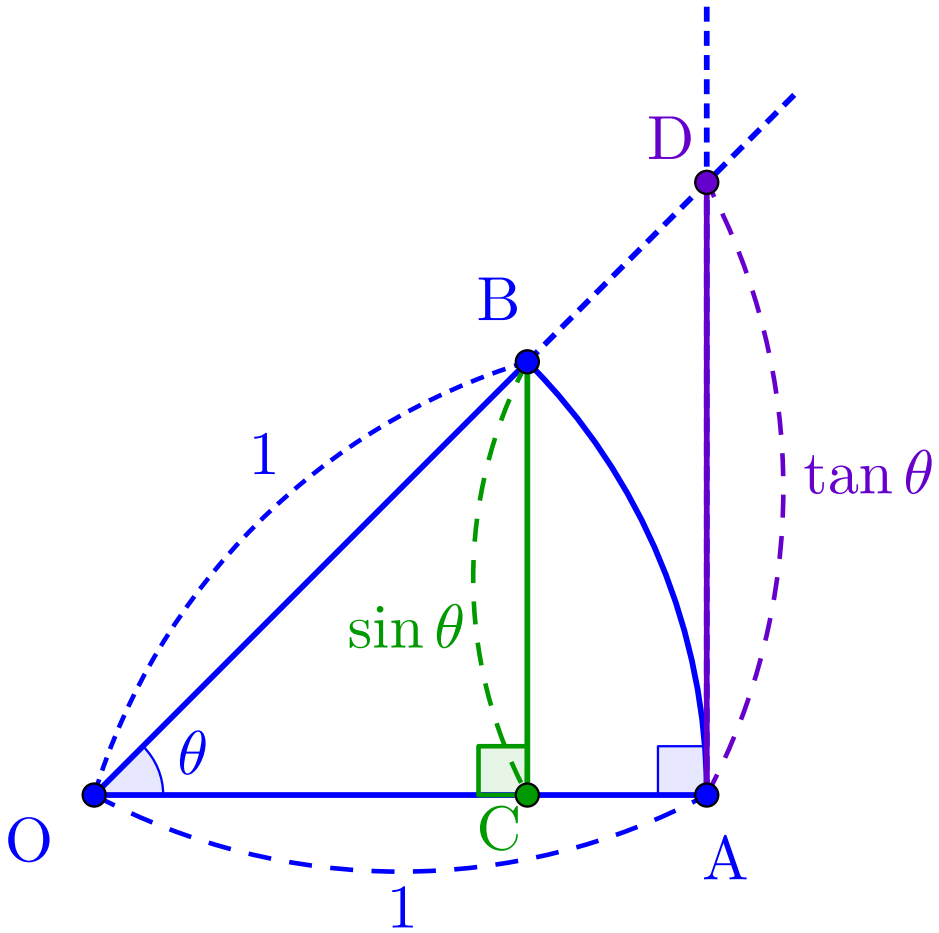


$$\lim_{\theta \to 0} \frac{\sin \theta}{\theta} = 1$$

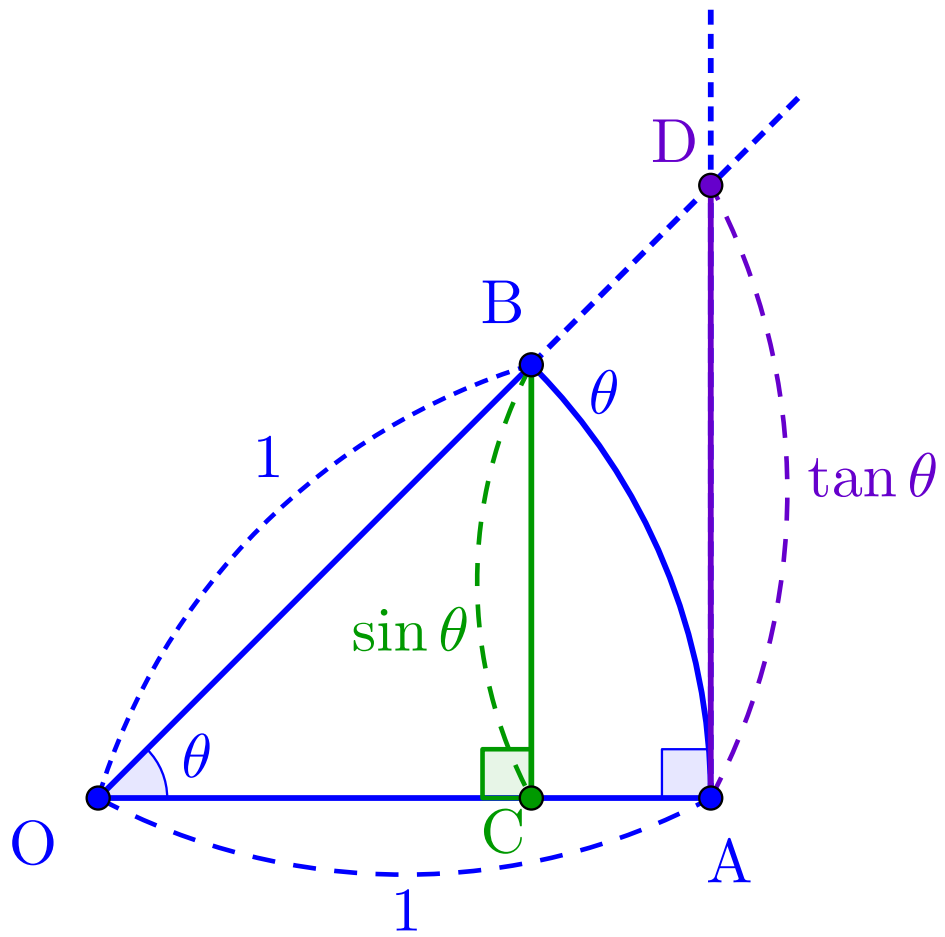


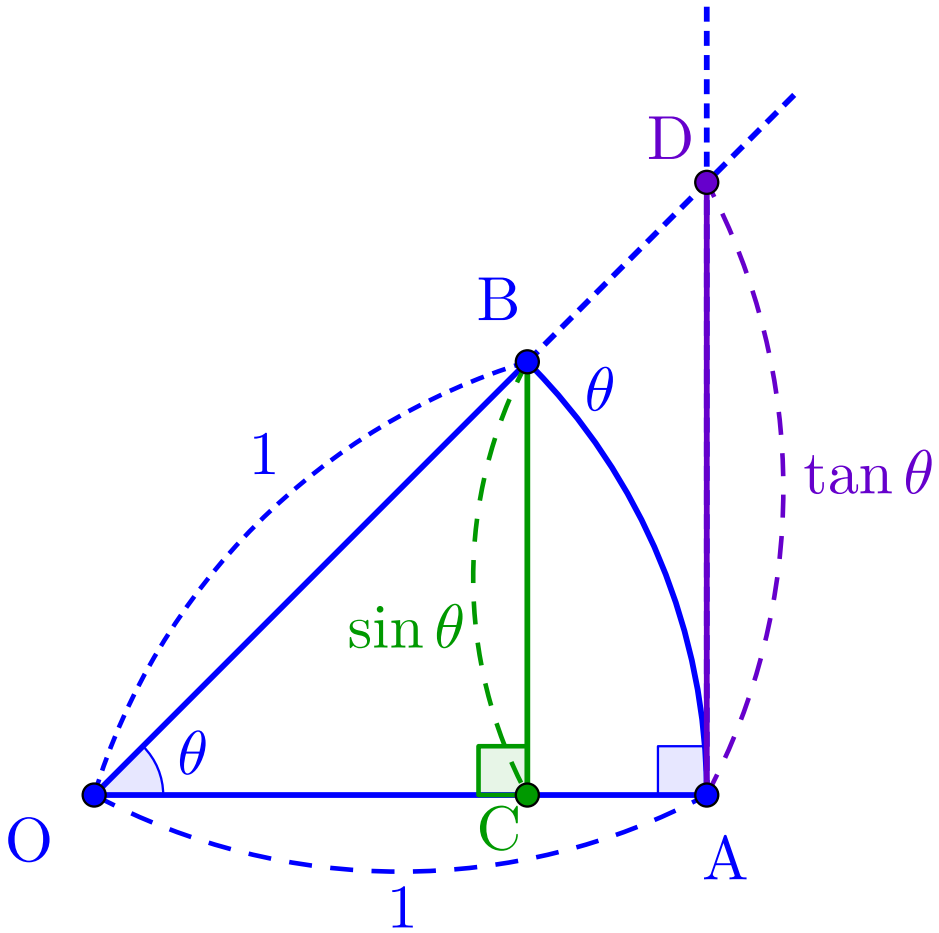

D
B
1
sin θ
θ
O
C
A


D
B
1
sin θ
θ
O
C
A
1

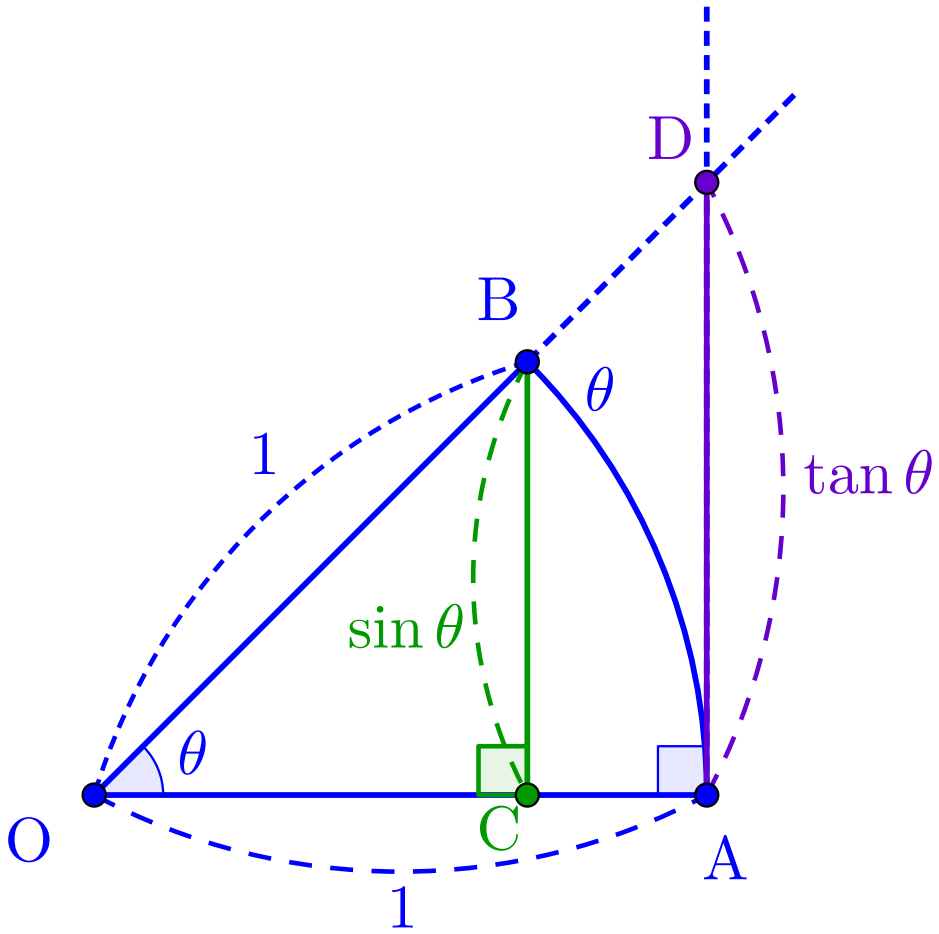

D
B
1
tan θ
sin θ
θ
O
C
A
1

$$\lim_{\theta \to 0} \frac{\sin \theta}{\theta} = 1$$



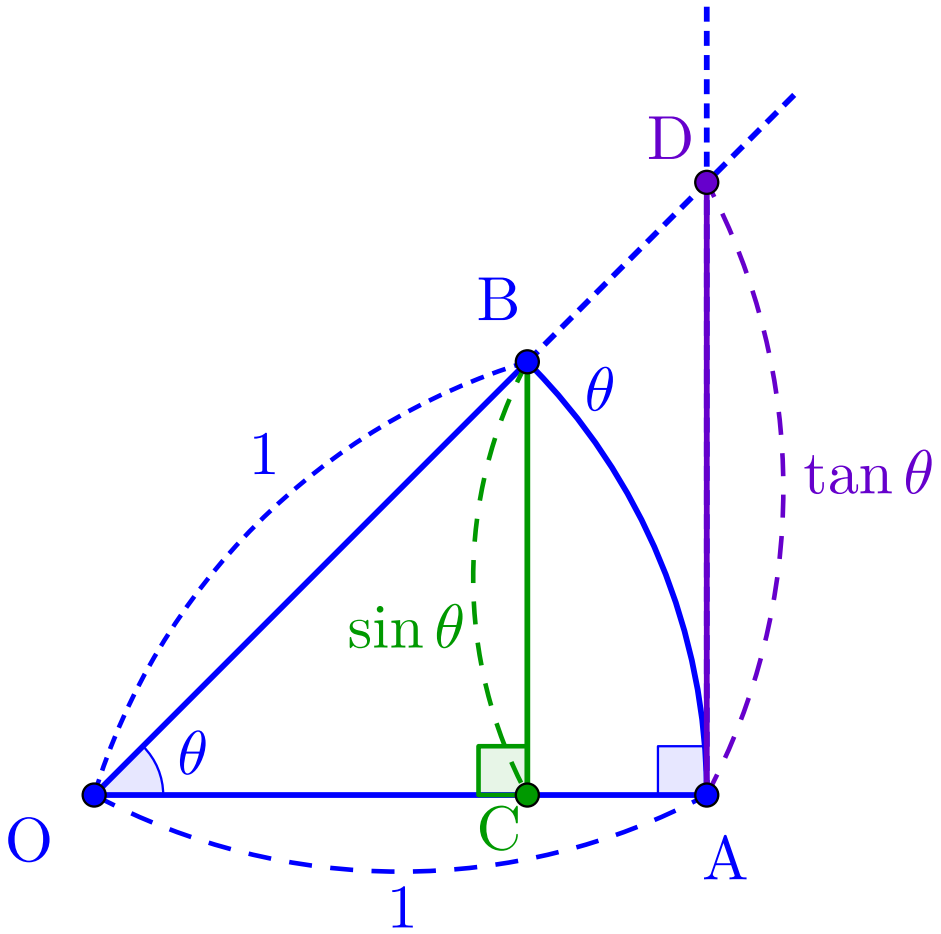


$\overline{\mathrm{BC}} < \text{arc AB}$



$\overline{\mathrm{BC}} < \text{arc AB}$

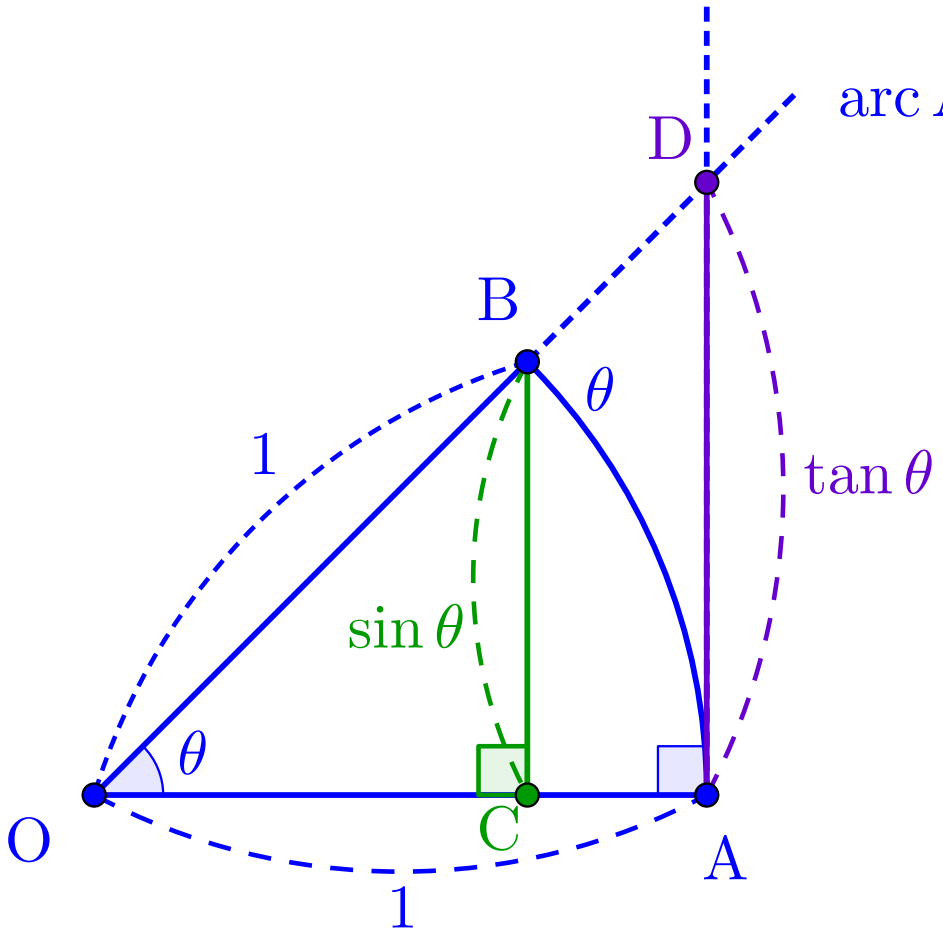
$\sin \theta < \theta$



$$\overline{\mathrm{BC}} < \text{arc AB}$$

$$\sin \theta < \theta$$

$$\frac{\sin \theta}{\theta} < 1$$

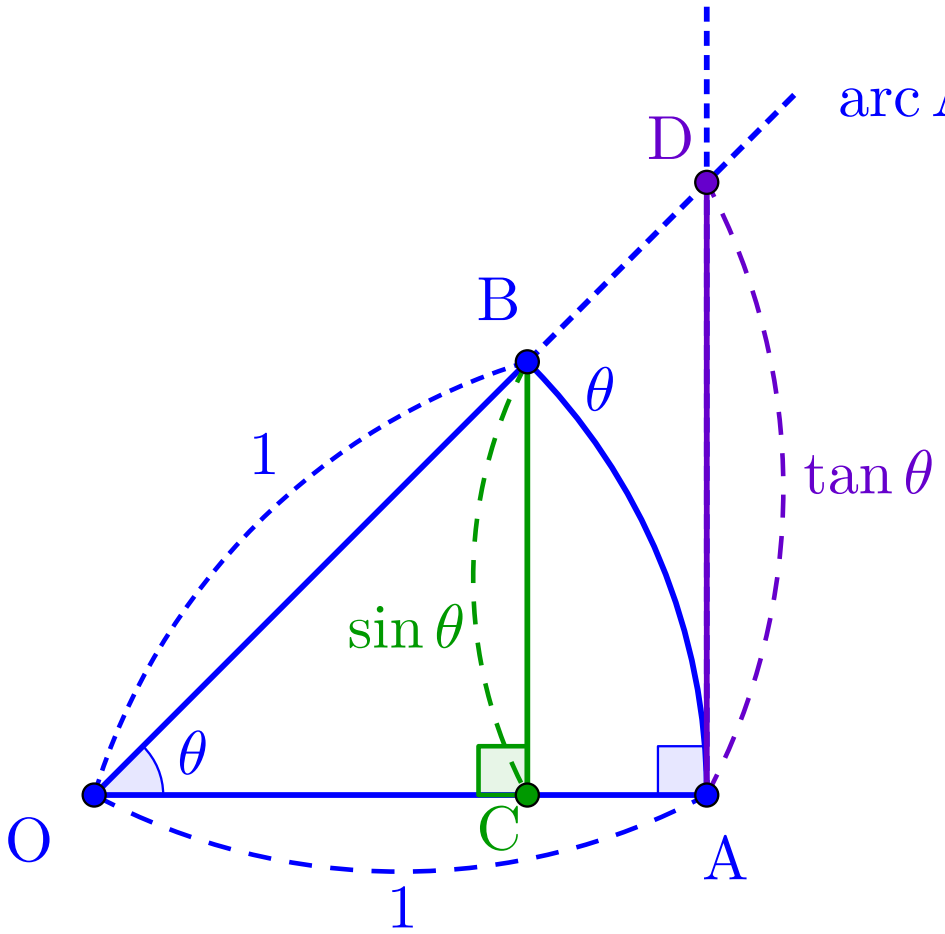


$\text{arc AB} < \overline{\text{AD}}$

$\overline{\text{BC}} < \text{arc AB}$

$\sin \theta < \theta$

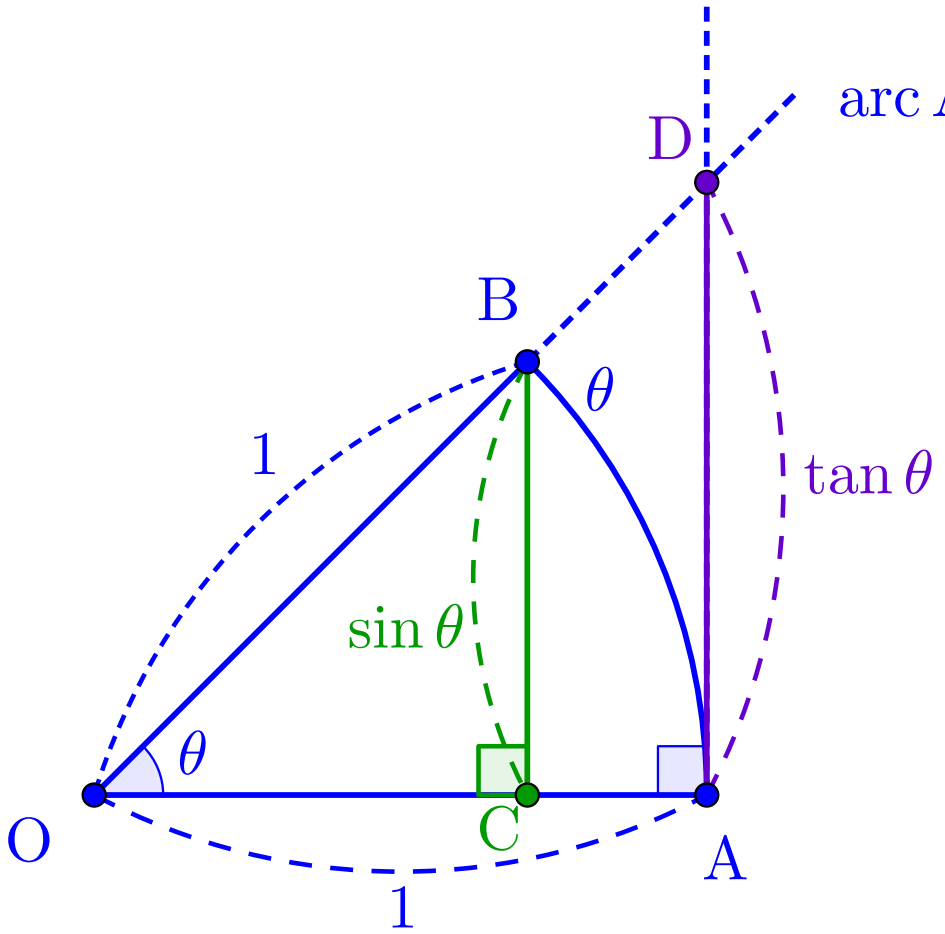
$\frac{\sin \theta}{\theta} < 1$



$\text{arc AB} < \overline{\text{AD}}$ $\quad$ $\overline{\text{BC}} < \text{arc AB}$

$\theta < \tan \theta$ $\quad$ $\sin \theta < \theta$

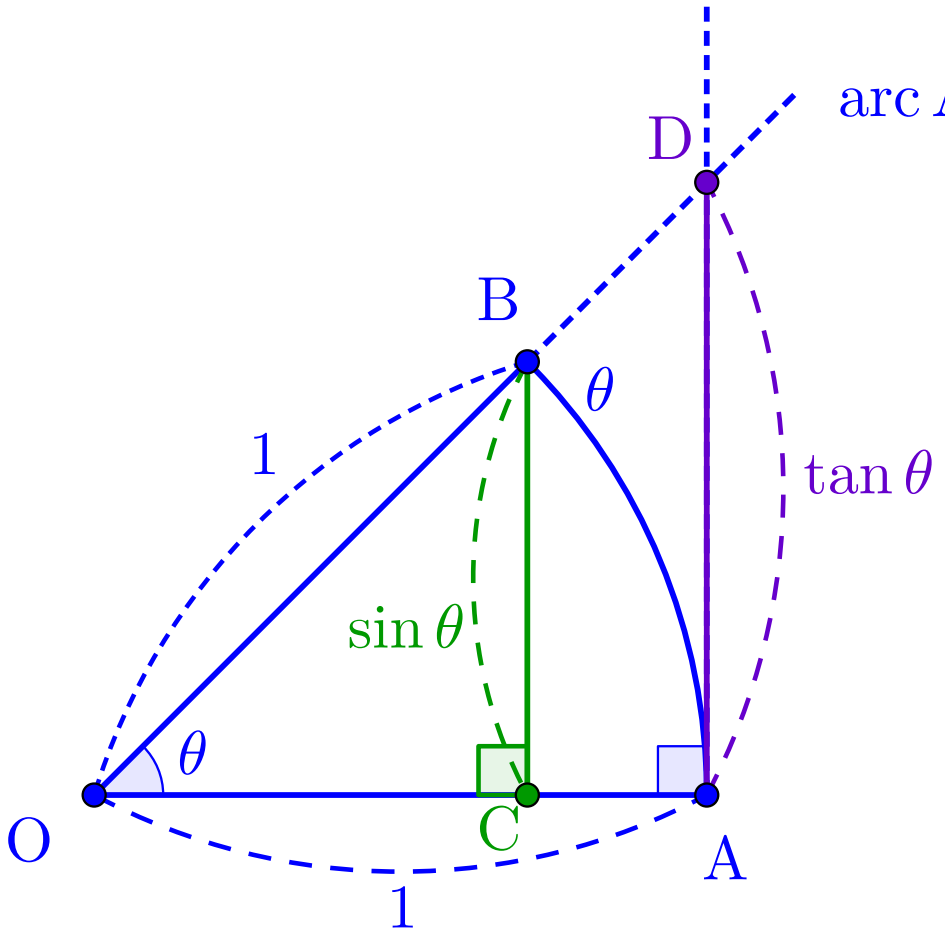
$$\frac{\sin \theta}{\theta} < 1$$



$\text{arc AB} < \overline{\text{AD}}$ $\quad$ $\overline{\text{BC}} < \text{arc AB}$

$\theta < \tan\theta$ $\quad$ $\sin\theta < \theta$

$$\cos\theta < \frac{\sin\theta}{\theta} < 1$$

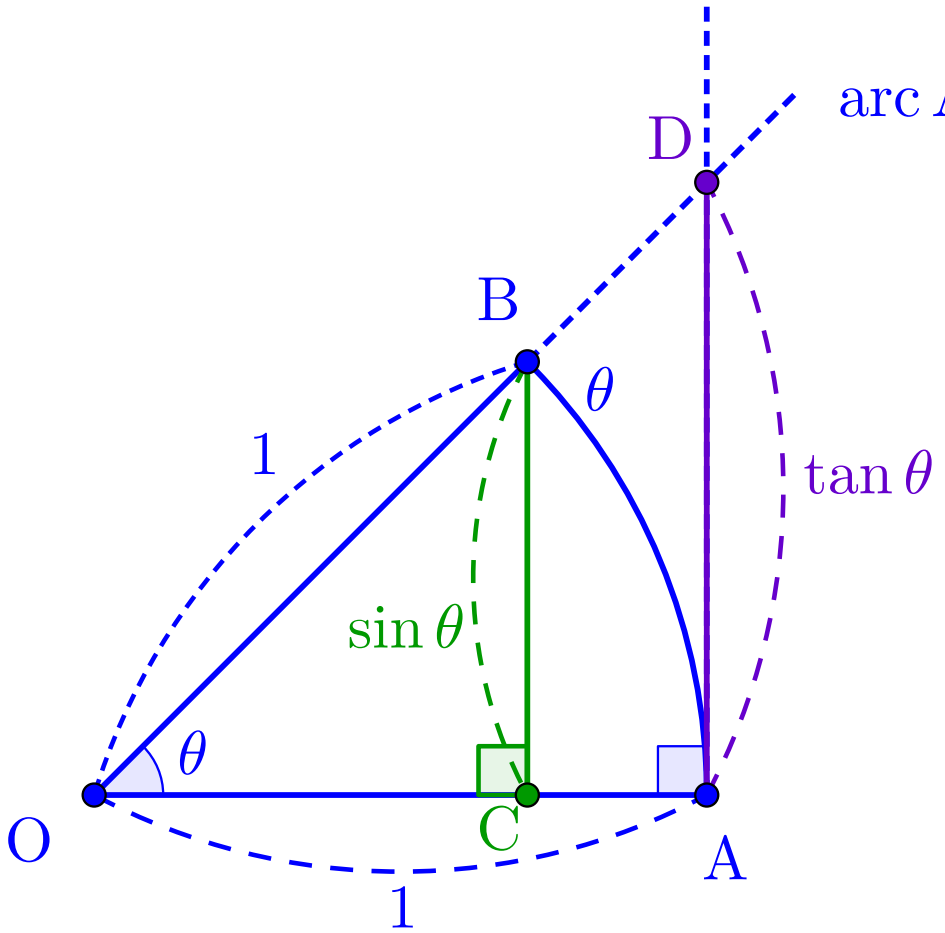


$\text{arc AB} < \overline{\text{AD}} \qquad \overline{\text{BC}} < \text{arc AB}$

$\theta < \tan \theta \qquad \sin \theta < \theta$

$$\cos \theta < \frac{\sin \theta}{\theta} < 1$$

$$\lim_{\theta \to 0^+} \cos \theta = 1$$



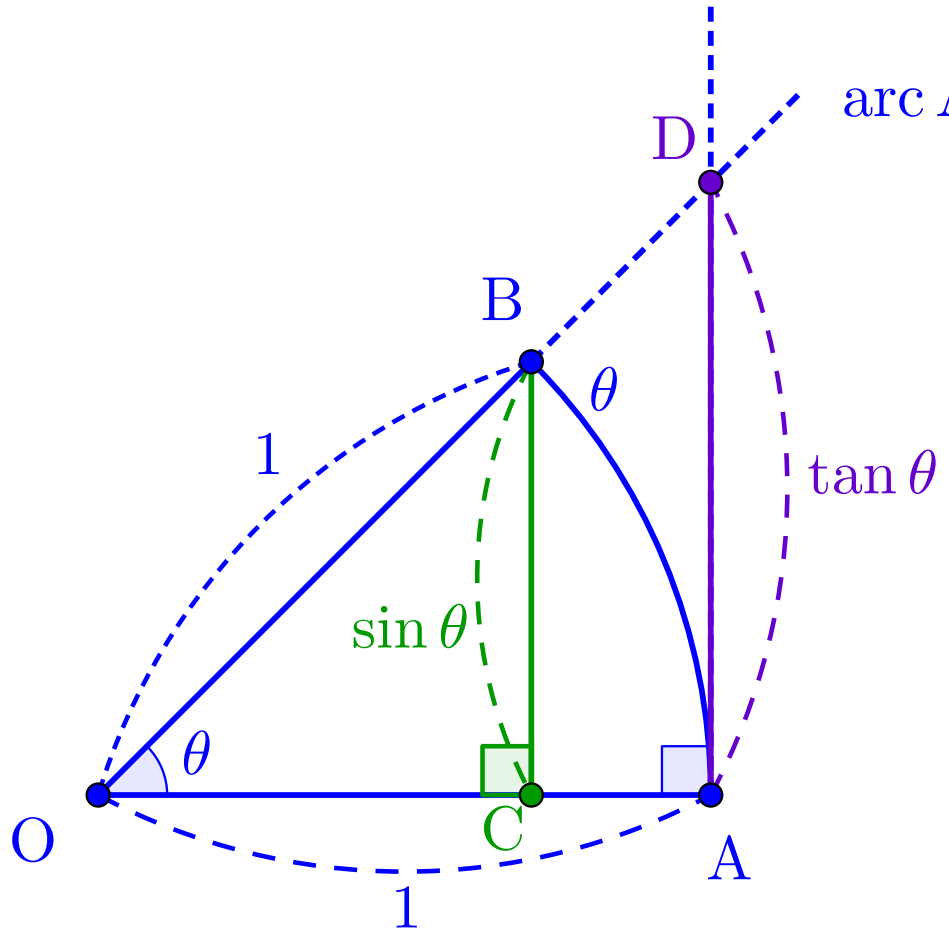
$\text{arc AB} < \overline{\text{AD}} \qquad \overline{\text{BC}} < \text{arc AB}$

$\theta < \tan \theta \qquad \sin \theta < \theta$

$$\cos \theta < \frac{\sin \theta}{\theta} < 1$$

$$\lim_{\theta \to 0^+} \cos \theta = 1$$

$$\lim_{\theta \to 0^+} \frac{\sin \theta}{\theta} = 1$$



$\text{arc AB} < \overline{\text{AD}} \qquad \overline{\text{BC}} < \text{arc AB}$

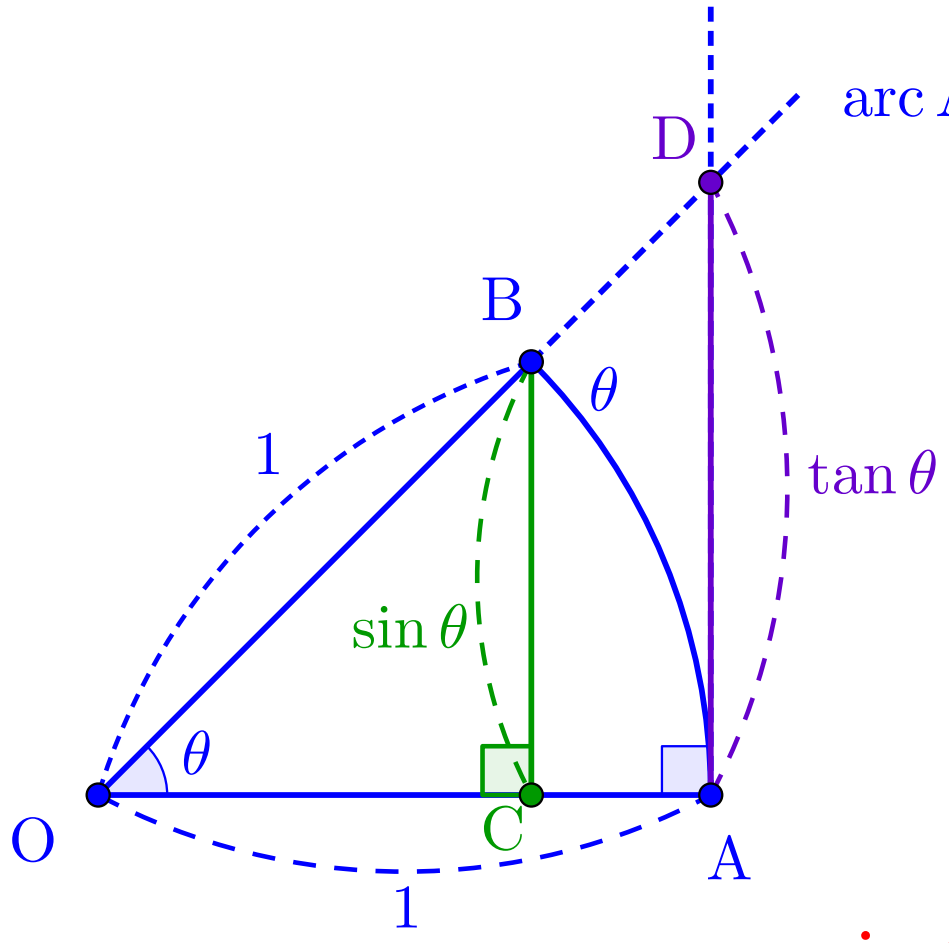
$\theta < \tan\theta \qquad \sin\theta < \theta$

$$\cos\theta < \frac{\sin\theta}{\theta} < 1$$

$$\lim_{\theta \to 0^+} \cos\theta = 1$$

$$\lim_{\theta \to 0^+} \frac{\sin\theta}{\theta} = 1$$

$$\left(\because \frac{\sin\theta}{\theta} \text{ is even.}\right)$$



$\text{arc AB} < \overline{\text{AD}} \qquad \overline{\text{BC}} < \text{arc AB}$

$\theta < \tan\theta \qquad \sin\theta < \theta$

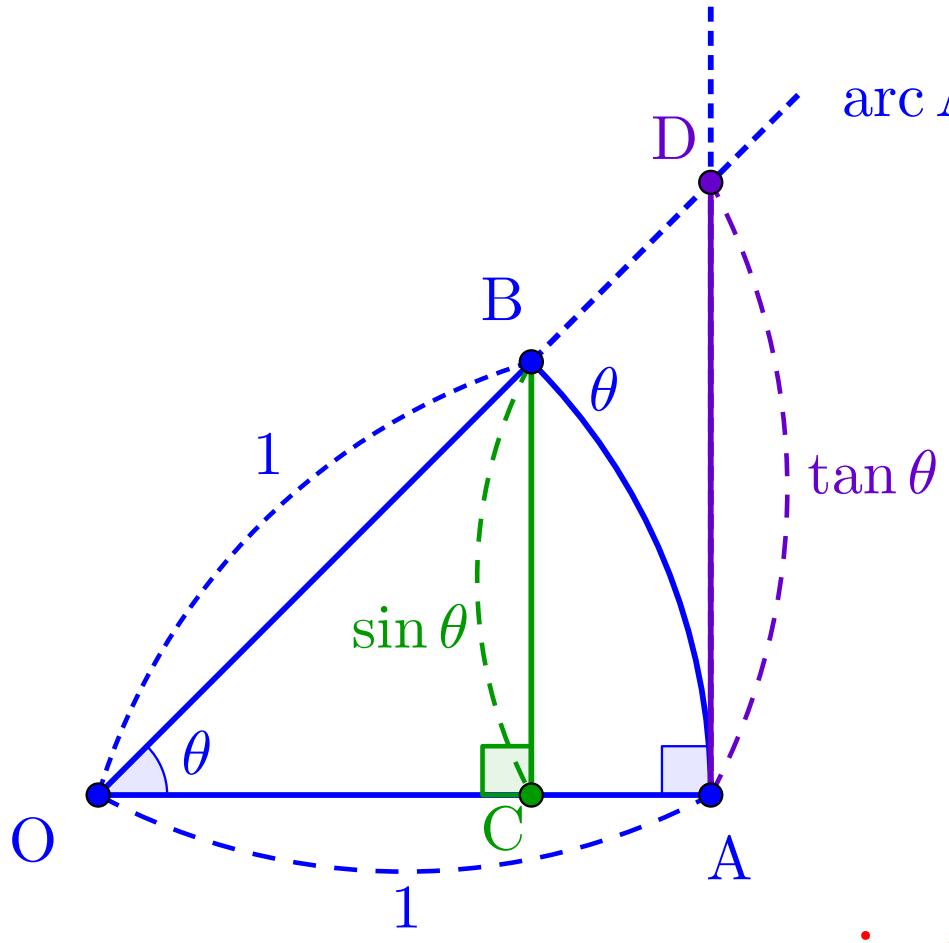
$\cos\theta < \frac{\sin\theta}{\theta} < 1$

$\lim_{\theta \to 0^+} \cos\theta = 1$

$\lim_{\theta \to 0^+} \frac{\sin\theta}{\theta} = 1$

$(\because \frac{\sin\theta}{\theta}$ is even.)

$\therefore \lim_{\theta \to 0} \frac{\sin\theta}{\theta} = 1$



$\text{arc AB} < \overline{\text{AD}} \qquad \overline{\text{BC}} < \text{arc AB}$

$\theta < \tan\theta \qquad \sin\theta < \theta$

$\cos\theta < \frac{\sin\theta}{\theta} < 1$

$\lim_{\theta \to 0^+} \cos\theta = 1$

$\lim_{\theta \to 0^+} \frac{\sin\theta}{\theta} = 1$

$(\because \frac{\sin\theta}{\theta}$ is even.)

$\therefore \lim_{\theta \to 0} \frac{\sin\theta}{\theta} = 1$