

$$y = 2 \sin x - x$$

$[0; \pi]$

$$y' = 2 \cos x - 1$$

$$y' = 0; 2 \cos x - 1 = 0$$

$$2 \cos x = 1$$

$$\cos x = \frac{1}{2}$$

$$x = \pm \frac{\pi}{3} + 2\pi k.$$

Проекцию $[0; \pi]$ принимаем
значением $x = \frac{\pi}{3}$

$$y(0) = 2 \sin 0 - 0 = 0$$

$$y\left(\frac{\pi}{3}\right) = 2 \sin \frac{\pi}{3} - \frac{\pi}{3} = 2 \cdot \frac{\sqrt{3}}{2} - \frac{\pi}{3} = \sqrt{3} - \frac{\pi}{3}$$

$$y(\pi) = 2 \sin \pi - \pi = 0 - \pi = -\pi$$

$$y_{\text{наим}} = -\pi$$

$$y_{\text{наиб}} = \sqrt{3} - \frac{\pi}{3}$$