(Урок 5, задание 8)

$$\sin(1^\circ) = \sin\left(\frac{\pi}{180}\right)$$

$$f(x_0 + \Delta x) \approx f(x_0) + d[f(x_0)]$$

$$f(x) = \sin x \; ; \; x_0 = \pi \; ; \; \Delta x = \frac{\pi}{180}$$

$$f(x_0) = f(\pi) = \sin \pi = 0$$

$$d[f(x_0)] = f'(x_0)\Delta x$$

$$f'(x) = (\sin x)' = \cos x$$

$$f'(x_0) = f'(\pi) = \cos \pi = -1$$

$$d[f(\pi)] = -1 \cdot \frac{\pi}{180} = -\frac{\pi}{180}$$

$$\Rightarrow \sin 1^\circ \approx 0 + \frac{\pi}{180} \approx 0{,}17444$$

(Могла запутаться)