Dmitry Beresnev B20-02

18.03.2002

VI.

$$\lim_{x \to 0} \sin(x) \cdot \ln(x) = \lim_{x \to 0} \frac{\ln(x)}{\frac{1}{\sin(x)}} \overset{H.R.}{=} \lim_{x \to 0} \frac{\frac{1}{x}}{\frac{-\cos x}{\sin^2 x}} =$$

$$= \lim_{x \to 0} \frac{\sin^2 x}{-\cos x \cdot x} \overset{H.R.}{=} \lim_{x \to 0} \frac{2 \sin x \cdot \cos x}{x \cdot \sin x - \cos x} = \frac{0}{-1} = 0$$

Answer: 0