

$$f'(x) = \left(\frac{\sin \pi x}{x} + x^2 \right)' = \frac{(\sin \pi x)' \cdot x - \sin \pi x \cdot x'}{x^2} + 2x =$$

$$= \frac{\pi x \cdot \cos \pi x - \sin \pi x}{x^2} + 2x$$

$$f'(2) = \frac{2\pi \cdot \cos 2\pi - \sin 2\pi}{2^2} + 2 \cdot 2 = \frac{2\pi \cdot 1 - 0}{4} + 4 = \frac{2\pi}{4} + 4 =$$

$$= \frac{\pi}{2} + 4$$