

$$\frac{\sin(\pi-x)}{\operatorname{tg}(\pi+x)} \cdot \frac{\operatorname{ctg}(\frac{\pi}{2}-x)}{\operatorname{tg}(\frac{\pi}{2}+x)} \cdot \frac{\cos(2\pi-x)}{\sin(-x)} =$$

$$= \frac{\sin x}{\cancel{\operatorname{tg} x}} \cdot \frac{\cancel{\operatorname{tg} x}}{-\operatorname{ctg} x} \cdot \frac{\cos x}{-\cancel{\sin x}}$$

$$= \frac{\cos x}{\operatorname{ctg} x} = \frac{\cos x}{\frac{\cos x}{\sin x}} = \underline{\underline{\sin x}}$$

$$22) \frac{\sin(-x)}{\sin(\pi+x)} - \frac{\operatorname{tg}(\frac{\pi}{2}+x)}{\operatorname{ctg} x} + \frac{\cos x}{\sin(\frac{\pi}{2}+x)} = 3$$

$$\left\{ \begin{array}{l} \sin(-x) = -\sin x \\ \operatorname{tg}(\frac{\pi}{2}+x) = -\operatorname{ctg} x \\ \sin(\pi+x) = -\sin x \\ \sin(\frac{\pi}{2}+x) = \cos x \end{array} \right.$$

$$\therefore \frac{\sin(-x)}{\sin(\pi+x)} - \frac{\operatorname{tg}(\frac{\pi}{2}+x)}{\operatorname{ctg} x} + \frac{\cos x}{\sin(\frac{\pi}{2}+x)} =$$

$$= \frac{-\sin x}{-\sin x} - \frac{-\operatorname{ctg} x}{\operatorname{ctg} x} + \frac{\cos x}{\cos x}$$

$$= 1 + 1 + 1 = 3$$