

$$953. y = \arcsin \left( \frac{\sin a \sin x}{1 - \cos a \cos x} \right).$$

$$954. y = \frac{1}{4\sqrt{3}} \ln \frac{\sqrt{x^2+2} - x\sqrt{3}}{\sqrt{x^2+2} + x\sqrt{3}} + \frac{1}{2} \operatorname{arctg} \frac{\sqrt{x^2+2}}{x}.$$

$$955. y = \frac{1}{2\sqrt{2}} \operatorname{arctg} \frac{x\sqrt{2}}{\sqrt{1+x^4}} - \frac{1}{4\sqrt{2}} \ln \frac{\sqrt{1+x^4} - x\sqrt{2}}{\sqrt{1+x^4} + x\sqrt{2}}.$$

$$956. y = \frac{x\sqrt{1-x^2}}{1+x^2} - \frac{3}{\sqrt{2}} \operatorname{arctg} \frac{x\sqrt{2}}{\sqrt{1-x^2}}.$$

$$957. y = \arccos(\sin x^2 - \cos x^2).$$

$$958. y = \arcsin(\sin x^2) + \arccos(\cos x^2).$$

$$959. y = e^m \arcsin x [\cos(m \arcsin x) + \sin(m \arcsin x)].$$

$$960. y = \operatorname{arctg} e^x - \ln \sqrt{\frac{e^{2x}}{e^{2x}+1}}.$$

$$960.1. y = \sqrt{1 + \sqrt[3]{1 + \sqrt[4]{1 + x^4}}}.$$

$$960.2. y = \operatorname{arctg} \frac{1}{\sqrt{\operatorname{ctg} \frac{1}{x^2}}}.$$

$$960.3. y = \ln^2(\sec 2\sqrt[3]{x}).$$

$$961. y = x + x^x + x^{x^x} \quad (x > 0).$$

$$962. y = x^{x^a} + x^{a^x} + a^{x^x} \quad (a > 0, x > 0).$$

$$963. y = \sqrt[x]{x} \quad (x > 0).$$

$$964. y = (\sin x)^{\cos x} + (\cos x)^{\sin x}.$$

$$965. y = (\ln x)^x : x^{\ln x}.$$

$$965.1. y = \left[ \frac{\arcsin(\sin^2 x)}{\arccos(\cos^2 x)} \right]^{\operatorname{arctg}^2 x}.$$

$$966. y = \log_x e.$$

$$967. y = \ln(\operatorname{ch} x) + \frac{1}{2 \operatorname{ch}^2 x}.$$

$$968. y = \frac{\operatorname{ch} x}{\operatorname{sh}^2 x} - \ln\left(\operatorname{cth} \frac{x}{2}\right).$$

$$969. y = \operatorname{arctg}(\operatorname{th} x).$$

$$970. y = \arccos\left(\frac{1}{\operatorname{ch} x}\right).$$

$$971. y = \frac{b}{a} x + \frac{2\sqrt{a^2-b^2}}{a} \operatorname{arctg}\left(\sqrt{\frac{a-b}{a+b}} \operatorname{th} \frac{x}{2}\right) \quad (0 \leq |b| < a).$$

972. Najděte derivaci funkce

$$y = \ln(\cos^2 x + \sqrt{1 + \cos^4 x}),$$