$$\frac{1-u}{2+u^2}\,u' = \frac{1}{x}$$

$$\int \frac{1-u}{2+u^2}\,du = \int \frac{dx}{x}$$

$$\int \frac{1}{2+u^2}\,du = \int \frac{\frac{1}{2}}{\frac{1}{2}u^2+1}\,du = \frac{\sqrt{2}}{2}\,\mathrm{arctg}\left(\frac{u}{\sqrt{2}}\right)+c$$

$$\int \frac{u}{2+u^2}\,du = \frac{1}{2}\int \frac{2u}{2+u^2}\,du = \frac{1}{2}\log(u^2+2)+c$$

$$\frac{\sqrt{2}}{2}\,\mathrm{arctg}\left(\frac{u}{\sqrt{2}}\right) - \frac{1}{2}\log(u^2+2) = \log(x)+c$$

$$e^{\frac{\sqrt{2}}{2}\mathrm{arctg}\left(\frac{u}{\sqrt{2}}\right)}\, e^{-\frac{1}{2}\log(u^2+2)} = \frac{\sqrt{e^{\sqrt{2}\,\mathrm{arctg}\left(\frac{u}{\sqrt{2}}\right)}}}{\sqrt{e^{u^2+2}}} = cx \rightarrow$$ delete stroke

$$\rightarrow e^{\sqrt{2}\,\mathrm{arctg}\left(\frac{y}{\sqrt{2}x}\right)} = c\,(y^2+2x^2)$$

5. $y' = f(ax+b)$

$$u' = a + b y' \rightarrow y' = \frac{u'-a}{b}$$

$$\frac{u'-a}{b} = f(u)$$ szétválasztható

$$(1-2x-2y)\,y' = x+y+1 \qquad a=1,\ b=1 \qquad f = x+1$$

$$y' = \frac{x+y+1}{1-2x-2y} \qquad u = x+y$$

$$(1-2u)(u'-1) = u+1$$

$$(1-2u)\,u' = 2-u \qquad (u=2 \text{ mo})$$

$$\frac{(1-2u)\,u'}{2-u} = 1 \rightarrow \int \frac{1-2u}{2-u}\,du = \int dx$$