

* 1) Умножь обе стороны:

$$\frac{dy}{dx} = \sqrt{y}$$

$$\frac{1}{\sqrt{y}} dy = dx$$

$$\int \frac{dy}{\sqrt{y}} = \int dx$$

$$2\sqrt{y} = x + 2C, C \in \mathbb{R}$$

$$\sqrt{y} = \frac{1}{2}x + C$$

$$y = \left(\frac{1}{2}x + C\right)^2$$

$$2) \frac{d\sqrt{y}}{dx} = y$$

$$d\sqrt{y} = y dx$$

$$\frac{dy}{2\sqrt{y}} = y dx$$

$$\frac{dy}{y^{3/2}} = 2 dx$$

$$\int \frac{dy}{y^{3/2}} = \int 2 dx$$

$$-2y^{-1/2} = 2x - 2C$$

$$y^{-1/2} = -x + C$$

$$y = (-x + C)^{-2}$$

$$3) \frac{dy}{dx} = y$$

$$\frac{dy}{y} = dx$$

$$\int \frac{dy}{y} = \int dx$$

$$\ln|y| = x + \ln|c|$$

$$|y| = |c|e^x$$

$$y = ce^x$$