

A. Řešte rovnice:

1.  $y' = |y|$
2.  $y' = 1 - y^2$
3.  $y' = (3/2)\sqrt[3]{y}$
4.  $y' = \sqrt{1 - y^2}$
5.  $(x^2 - 4x)y' + y = 0$
6.  $y' = 3x^2y^2$
7.  $y' = \frac{\cos^2 y}{x^2 + 1}$
8.  $y' \sin x = y \ln y$
9.  $y' = \sqrt[3]{y^2}$
10.  $y' = \exp(-(x + y))$
11.  $\frac{yy'}{y^2 - 1} + \frac{x}{x^2 - 1} = 0$
12.  $y' = 3\sqrt[3]{y^2} \exp x$

B. Řešte rovnice:

1.  $(x^2 + y^2)y' = 2xy$
2.  $y^2 + x^2y' = xyy'$
3.  $xy' + y = 2y^2/x$
4.  $(x^2 - y^2)y' = 2xy$
5.  $y' = \frac{y-x}{y+x}$

C. Řešte rovnice:

1.  $y' + y = \sin x \exp(-x)$
2.  $x^3y' - xy = 1$
3.  $xy' + (1 + x)y = \exp x$
4.  $y' - y/x = x^2 \exp x$
5.  $y' + \alpha y = \exp \beta x$
6.  $y' + \frac{x}{1+x^2}y = \frac{1}{x(x^2+1)}$

D. Řešte rovnice:

1.  $xy' - 4y = x^2\sqrt{y}$
2.  $y' - \frac{xy}{2(x^2-1)} - \frac{x}{2y} = 0$
3.  $xy' + y = xy^2 \ln x$
4.  $x - y^2 + 2xyy' = 0$