Řešte Bernoulliho rovnice:

7. $y' - \frac{xy}{2(x^2-1)} - \frac{x}{2y} = 0$

8. $xy' + y = xy^2 \ln x$

9. $y' - 2xy = 2x^3y^2$

10. $y' - \frac{y}{x} = \frac{1}{2y}$

11. $xy' + y = y^2 \ln x$, $y(1) = 1$.

12. $y' - xy = -y^3 e^{-x^2}$

13. $y' - 9x^2y = (x^5 + x^2)y^{2/3}$, $y(0) = 0$.

14. $y' + 4xy + 2e^{-x^2}\sqrt{y} = 0$, $y(0) = 0$.

15.

$$3y' + \frac{y}{(1+x^2)(\pi/2 - \operatorname{arccotg} x)} + \frac{1}{(1+x^2)y^2} = 0, \qquad y(1) = -\sqrt[3]{\pi}/2.$$

16. $2y' - 6y \operatorname{tg} x + 3\sqrt[3]{y} \sin x = 0$, $y(0) = (1/3)^{2/3}$.

17. $y' - xy + xy^2 = 0$

18. $y' + 2y/x^2 + 2\sqrt{y}/x^2 = 0$

19. $y' + y \operatorname{cotg} x + \cos x/2y = 0$, $y(\pi/2) = 2/\sqrt{3}$.

20. $y' - y - y^2 = 0$

21.

$$3y' + \frac{2y}{x \ln x} + \frac{2}{x\sqrt{y}} = 0$$

22.

$$4y' + \frac{3y}{\sqrt{x}} + \frac{3}{\sqrt{x}\sqrt[3]{y}} = 0$$

23. $4y' + 3y + 3(\cos^2 x - 1/2)e^{-x}/\sqrt[3]{y} = 0$