NAME_____

Solve the following differential equation by separating variables.

1. $\frac{dy}{dx}\ln x - \frac{y}{x} = 0$
2. $y^2 dy + x^3 dx = 0$
3. $2\frac{dy}{dx} = \frac{y(x+1)}{x}$
4. $\frac{dy}{dx} = e^{x+y}$
5. $\frac{dy}{dx} = \frac{\cos x}{\sin y}$
6. $(x^2 y + y)\frac{dy}{dx} = 1$
7. $\frac{dP}{dt} = kP$ $\quad k$ constant
8. $y'(x) = -\frac{x}{y}$
9. $\frac{dy}{dx} = \frac{x^2}{\sqrt{y}}$
10. $\sqrt{1-x^2}\,2^y\frac{dy}{dx} = 1$