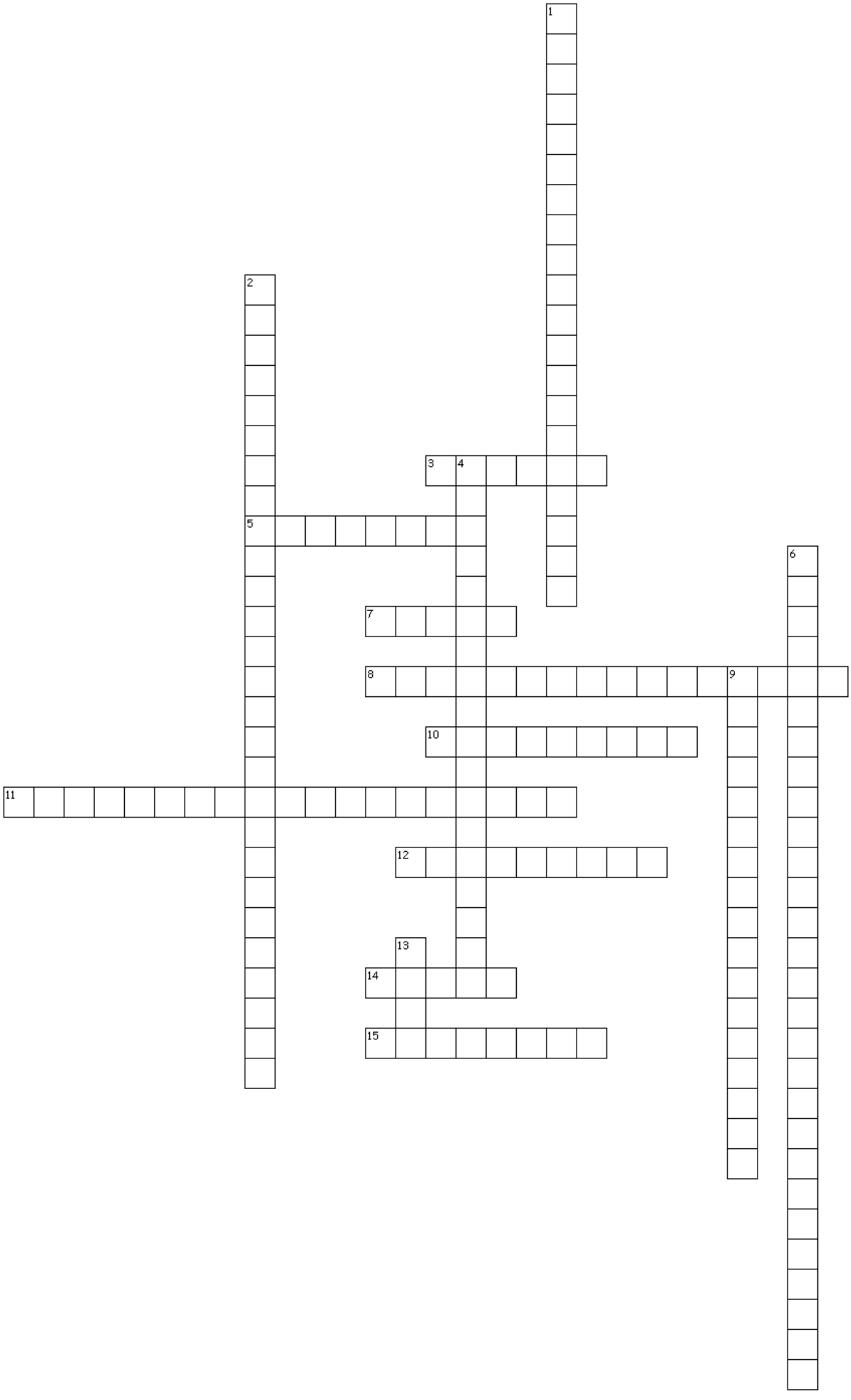
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Across

3. An ODE is _____ if it is of the form $a_n(x)y^n + a_{n-1}(x)y^{(n-1)} + \cdots + a_1(x)y = f(x)$ where $a_1, \ldots, a_{n-1}, a_n, f$ are functions of the independent variable x only.

5. A solution in the form $F(x, y) = 0$.

7. What is the order of this equation? $(\sin\theta)y''' - (\cos\theta)y' = 2$

8. What integration method should be used to solve the following integral? $\int (y^2 - 4)^{-1} dy$

10. Is this function linear or nonlinear? $\frac{d^2y}{dx^2} = \sqrt{1 + \left(\frac{dy}{dx}\right)^2}$

11. An nth order differential equation $f(x, y, y^1, \ldots, y^{n-1})$ along with constraints on the functions $y, y', y'', \ldots, y^{(n-1)}$ at a given initial point x_0.

12. A _____ equation is one that can be made into the form $\frac{dy}{dx} = g(x)h(y)$.

14. What's the order of this equation? $y' = y^2 + y^3 + \sqrt{x}$

15. A solution in the form $y = y(x)$.

Down

1. An equation with a function and some of its derivatives.

2. A differential equation where the function involved is a function of two or more variables.

4. What integration method should be used to solve the following integral? $\int xe^x dx$

6. A differential equation where the function involved is a function of only one variable.

9. We denote the _____ by the Greek letter μ.

13. What is the solution to the IVP $y' = \cos(x), y(0) = 0$?