

Solution of Laplace's equation.

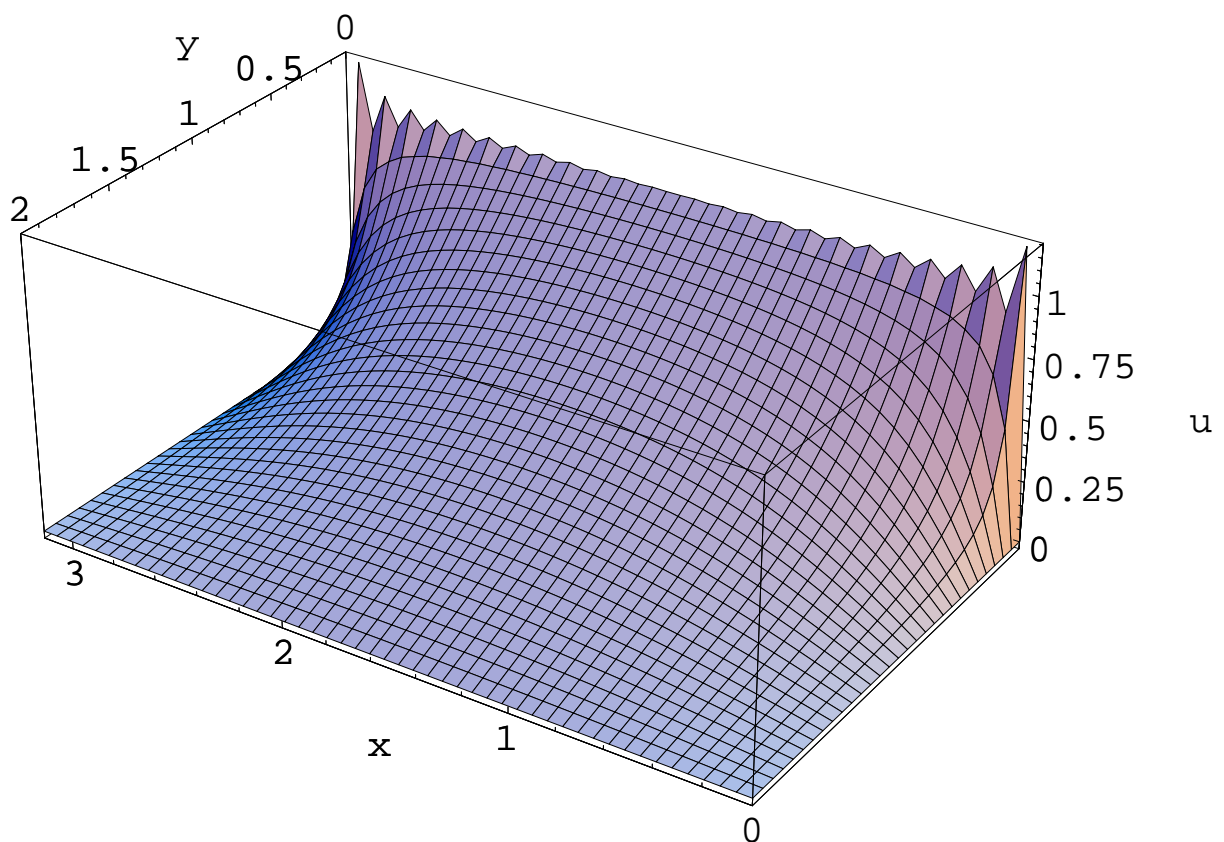
The solution to Laplace's equation

$$\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = 0$$

over the region or domain $0 < x < \pi$, $0 < y < b$ subject to the boundary conditions

$$u(x, 0) = 1 \quad u(x, b) = 0 \quad u(0, y) = u(\pi, y) = 0$$

can be illustrated graphically by



The plot is determined from the first 25 terms of the infinite series solution derived by assuming that $u(x, y)$ is of the form

$$u(x, y) = F(x)G(y) .$$