

Problems solvable by differential equations

Differential equations can be used to solve a variety of problems, including:

1. Motion problems in physics, such as the trajectory of a projectile.
2. Population dynamics in biology or ecology, such as the population growth of a species.
3. Heat transfer in thermodynamics and engineering, such as the temperature of a substance over time.
4. Electrical circuits in electrical engineering, such as analyzing the behavior of voltages and currents.
5. Chemical reactions in chemistry, such as the rate of a reaction.
6. Fluid flow in fluid mechanics, such as the behavior of a fluid in a pipe.