Chapter 6: Introduction to Differential Equations

Upon successful completion of Chapter 6, the student should be able to:

Solve the differential equation $y' = f(x)$ including problems with an initial condition

Sketch a simple direction field for a differential equation $y'=f(x)$

Describe geometrically the meaning of a differential equation $y'=f(x)$ and the solution

Recognize a separable differential equation and separate the variables

Solve a separable differential equation with an initial condition

Translate growth/decay/cooling problems into differential equations

Solve the differential equations arising from growth/decay/cooling and interpret the meaning of the solutions.