EXAMPLE: Assume that y, the height (ft.) of a tree, is a function of x, its base diameter (ft.). Assume also that experimental data has determined that the rate at which y changes with respect to x is proportional to its height y. Data shows that if x=1 ft., then y=10 ft. and if x=2 ft., then y=15 ft. What is the expected height y of a tree having a base diameter of x=4 ft. ?

1.) Write an equation for the Differential Equation.
2.) Solve the Differential Equation.
3.) Write y explicitly as a function of x.