

**Math 1552, Integral Calculus**  
**Sections 7.2: Separable Differential Equations**

1. Solve the initial value problem:

$$y' = x \sqrt{\frac{1-y^2}{1-x^2}}, \quad y(0) = 0.$$

2. Twenty percent of the candy in your Valentine's day gift disappears after one hour. If the candy is disappearing exponentially, determine:
- (a) the percent of candy after three hours, and
  - (b) the amount of time it will take until you have less than one percent of your candy left.