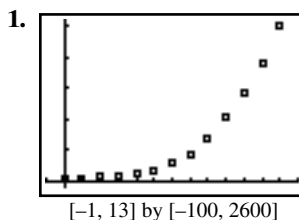


**Chapter 1 Project**



2. The exponential regression produces  
 $y \approx 21.956(1.511)^x$ .
3. 2000: For  $x = 13$ ,  $y \approx 4690$   
 2001: For  $x = 14$ ,  $y \approx 7085$
4. The model, which is based on data from the early, high-growth period of Starbucks Coffee's company history, does not account for the effects of gradual market saturation by Starbucks and its competitors. The actual growth in the number of locations is slowing while the model increases more rapidly.
5. The logistic regression produces  

$$y \approx \frac{4914.198}{1 + 269.459 e^{-0.486x}}$$
6. 2000: For  $x = 13$ ,  $y \approx 3048$   
 2001: For  $x = 14$ ,  $y \approx 3553$

These predictions are less than the actual numbers, but are not off by as much as the numbers derived from the exponential model were. For the year 2020 ( $x = 33$ ), the logistic model predicts about 4914 locations. (This prediction is probably too conservative.)