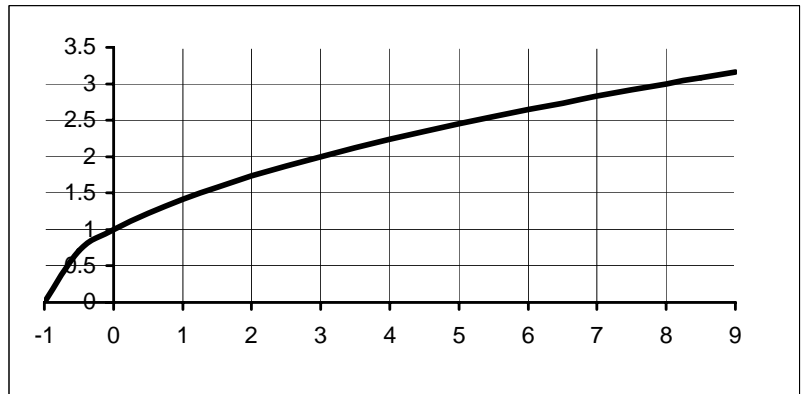


MA 181
Section 2.1

Finding Slopes

Consider the function $f(x) = \sqrt{1+x}$.
The graph of this function is shown to the right.



1. Compute the *slopes* of the secant lines to f between the pairs of points with the following x -coordinates:
 - (a) $x = 3$ and $x = 4$
 - (b) $x = 3$ and $x = 3.5$
 - (c) $x = 3$ and $x = 3.1$
 - (d) $x = 3$ and $x = 2$
 - (e) $x = 3$ and $x = 2.5$
 - (f) $x = 3$ and $x = 2.9$
2. Using the slopes you have found so far, what is your guess for the slope of the tangent line to f at $x = 3$?
3. On your graph, sketch the tangent line to f at $x = 3$. Use the graph to estimate the slope of this line. Does this slope seem to match your answer to question #2?