Excel Workshop Project—Function Graph with Tangent Line.

The goal of this project is to create a tabular function and its tangent line from a formula and graph that tabular function and tangent line.

Phase One—Layout the data as follows:
Row one: title and author

Top section: global parameters:
  x_min—smallest x value in the table
  x_incr—step size between x values
  c_—x value for the tangent line point
  f_c—y value for the tangent line point (formula)
  m_tan—slope of the secant line (formula)

Main section: tabular function:
  x column—arithmetic series of x values from x_min in steps of x_incr
  f column—formula for function using x column for independent variable
  tan line column—formula m_tan*(x-c_) + f_c
  the column headers should be "x", "f(x) = whatever", and "tan line".

Phase Two—Create a Graph:
  Select the main table (including column headers)
  Insert chart with chart type scatter, connected lines.
  Fill in a chart title.

Phase Three—Change the function or tangent point:
  f column—change the column header, and formula
  change the f_c and m_tan formulas
  change the c_ and/or x_min