- **Definite integral:**

Integral[<function>,<start x-value>, <end x-value>]

- **Integral between two functions:**

IntegralBetween[<function>,<function>,<start x-value>,<end x-value>]

Finding Regression Models

- **Enable Spreadsheet View**
- **Create a list of ordered pairs: Enter *x* coordinates in the A column; enter *y* coordinates in the B column.**
  - **Method 1: Highlight columns A and B, right click, choose Create -> List of points**
  - **Method 2: Create ordered pairs in the C column by typing =(a1, b1). Drag the cell to replicate. With the list of ordered pairs highlighted, click on the Create List button and accept the list name.**
- **To find a polynomial regression model:**

FitPoly[<list of points>,<degree of polynomial>]

- **To find an exponential regression model:**

FitExp[<list of points>]

- **To find a power regression model:**

FitPow[<list of points>]

- **To find a logistic regression model:**

FitLogistic[<list of points>]

- **To find a value for r^2 or R^2:**

RSquare[<list of points>,<function>]

GeoGebra Information

- **To Change Settings**

  Font and number of decimal places: Options -> Font Size -> (select font size)

  Number of decimal places: Options -> Rounding -> (select number of decimal places)

  Save settings: Options -> Save Settings

- **To Change Graphics View**

  Relocate the origin: Click on Move Graphics View tool button. Use the hand to move the origin.

  Resize the axes: Click on Move Graphics View tool button. Put the cursor near the axis you wish to resize until you see the double-headed arrow. Drag up or down to resize.

  Return to standard view: Right click inside the Graphics window. Select Standard View.

- **To Enable the Spreadsheet View: View -> Spreadsheet (or Ctrl-Shift-S) (with Spreadsheet disabled)**
- **To Disable the Spreadsheet View: View -> Spreadsheet (or Ctrl-Shift-S) (with Spreadsheet enabled)**
- **To Obtain a New GGB Window: File -> New Window (or Ctrl-N)**

GeoGebra is command based. Enter a function in the input line. Use commands to find various quantities. Start typing a command name in the input line; then select the command from the offered list. Fill in the input(s) for the command. For a list of commands, click on the left-pointing arrow that's to the left of the input line.

Use sqrt(x) for "the square root of x." For any other root, use the equivalent rational exponent form.
Use the exponential function on the α key for *e*, not the letter e from the keyboard.
Use the caret key (shift 6) to raise a quantity to a power.
Put all fractions in parentheses.

- **Function value: *f(k)* where *k* is the given value of *x***
- **Asymptotes of a function: Asymptote[<function>]**
- **Zeros of a polynomial function: Root[<polynomial>]**
- **Zeros of a general function:**

Roots[<function>, <start x-value>, <end x-value>]

- **Relative extrema of a polynomial function:**

Extremum[<polynomial>]

- **Relative extrema of a general function:**

Extremum [<function>, <start x-value>, <end x-value>]

- **Inflection points of a polynomial function:**

InflectionPoint[<polynomial>]

- **Points of intersection (both functions are polynomials):**

Intersect[<object>,<object>]

- **Points of intersection (one or both are general functions):**

Intersect[<function>,<function>, <start x-value>, <end x-value>]

- **Limit of a function at a given value:**

Limit[<function>,<value>]

- **First derivative of a function:**

Derivative[<function>] or just type *f* '(*x)* in the input line

- **Second derivative of a function:**

Derivative[<function>,2] or just type *f* '' (*x)* in the input line

- **Equation of a tangent line:**

Tangent[<point>, <function>]

- **Partial derivative of a function:**

Derivative[<function>,<variable>] (so Derivative[f,x] for the first partial of *f* with respect to *x*)

- **Riemann sum on [*a*, *b*] with *n* rectangles and left endpoints:**

RectangleSum[<function>,<start x-value>, <end x-value>,<number of rectangles>,0]

- **Riemann sum on [*a*, *b*] with *n* rectangles and right endpoints:**

RectangleSum[<function>,<start x-value>, <end x-value>,<number of rectangles>,1]

- **Riemann sum on [*a*, *b*] with *n* rectangles and midpoints:**

RectangleSum[<function>,<start x-value>, <end x-value>,<number of rectangles>,0.5]

- **Upper sum on [*a*, *b*] with *n* rectangles:**

UpperSum[<function>,<start x-value>, <end x-value>,<number of rectangles>]

- **Lower sum on [*a*, *b*] with *n* rectangles:**

LowerSum[<function>,<start x-value>, <end x-value>,<number of rectangles>]

- **Indefinite integral:**

Integral[<function>]