A Brief Maple 13 Cheat Sheet

- There are two different interfaces for Maple. I think it's clearest to use the Document Mode.
  Probably the easiest way to do this is to go to **File** – **New** – **Document Mode**.

- The palettes on the left can be very handy for providing templates for Maple's syntax. In particular, the **Expression** and **Common Symbols** palettes will be especially useful for Calculus.

- You may eventually find that it is easier to enter some expressions on the keyboard rather than use the palettes. A few handy ones are:

  `Pi` for π
  `exp(x)` for e^x
  `sqrt(x)` for $\sqrt{x}$

  Be aware that Maple is case-sensitive: `pi` is *not* the same thing as `Pi`.

- The contextual menus provide access to many of the functions of Maple. If you right-click on an expression, Maple will give you the options to:

  Differentiate, Integrate, 2-D Plot, Evaluate at a point, Approximate, and many others

  Explore!

- You can access the Maple commands for numeric integration by:
  - **Tools** – **Load Package** – **Student Calculus 1** will load the package
  - `ApproximateInt( )` is the Maple function that will calculate, or plot, the approximation. For example,

    ```
    ApproximateInt( cos(x^2), x=0..2 Pi, partition=30, method=trapezoid, output=sum)
    ```

    will output T_{30} for $\int_0^{2\pi} \cos(x^2)\,dx$. You can then right-click on the output and select **Approximate** to find the numeric value.
  - The other options we will may use for `method` are `midpoint`, `left` and `right`.
    The other options we will use for `output` are `plot` and `animation`.

- You can also access a graphical interface for `ApproximateInt( )` using the
  Tools – **Tutors** – **Calculus Single Variable** – **Approximate Integration** menu.
  It's worth your time to explore the various Tutors that are available.

- The **Help** menu is your friend. Use it to find the exact syntax and options for the commands.
  The **Help** – **Quick Reference** option is also worth exploring.

- If you've never used Maple before, dont get overwhelmed or discouraged. Its a remarkable tool that will help you explore and learn mathematics more deeply.