**Separable Equations**

When you come across a problem that cannot be integrated because of a mixture of x and y variables, you must separate them, putting the two different variables on either side of the equal sign. Then just integrate each side separately, and isolate y.

Example:



First, cross multiply to separate the variables.



Now, integrate both sides.

Don’t forget to account for a possible constant by adding “c” to the side with the variable on the bottom of the derivative notation. (For instance, the derivative notation in this problem is , so therefore the constant would be added to the side of the equation with the “x” variables!)







Now, solve for y, and you’re finished!

