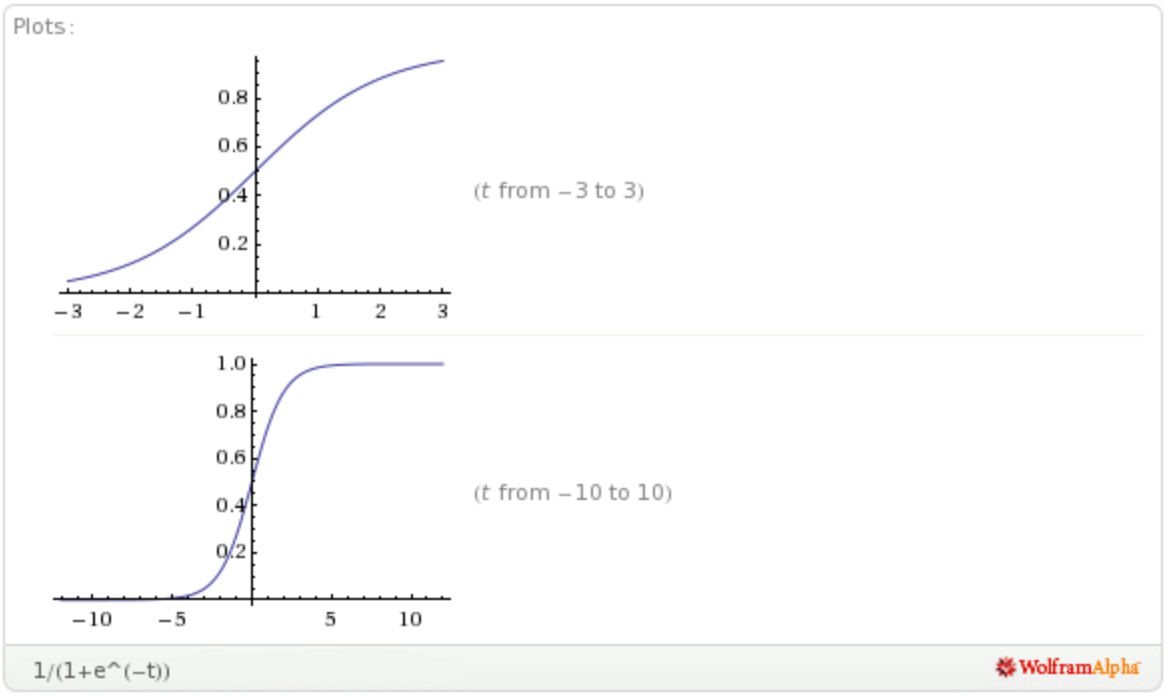
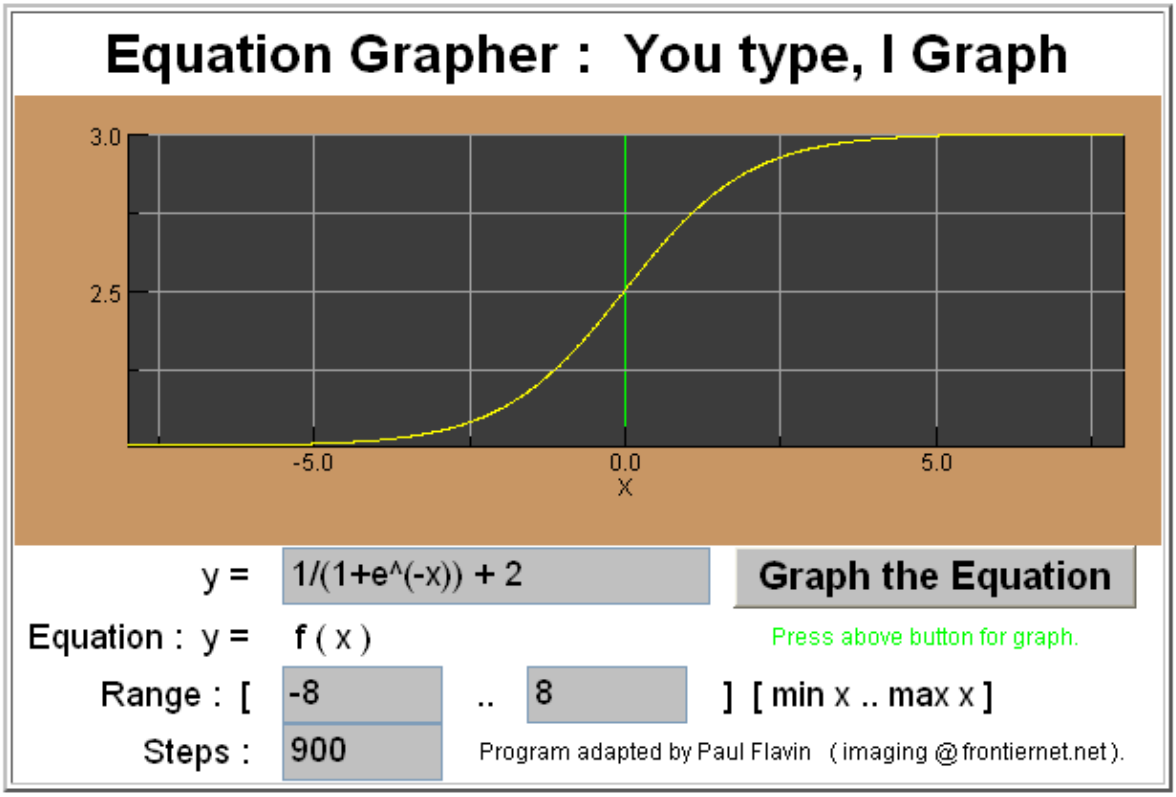
In order to solve this problem we first have to look at the general shape of the graph. When graphing the function it will look very similar to the following graph:



For the first problem to solve we have to put the k-value after the whole equation in order to move the horizontal asymptote to any direction.

The formula would look like : $(\frac{1}{1+e^{(-t)}} + k$

Now if we change this number to k=2 our horizontal asymptote would be at k+1 (3):



So as we can see our horizontal asymptote is at 3 when k=2.