

## Reflection

In today's class we focused on how to evaluate complex limits, solve them using algebra, and finding exact answers instead of looking at a table. First in each equation we need to try to just plug in the value that the limit is approaching to see if it works, and if it does then you're done! If it doesn't work (usually ends up being 0/0, which is a no-no) then you need to look at the equation with a new perspective.

For example if we try to find the limit of this equation at 0 we put 0 in for x without modifying the equation then we get 0/0.

$$\lim_{X \rightarrow 0} \frac{x^2+x}{x} = \lim_{X \rightarrow 0} \frac{0^2+0}{0} = \lim_{X \rightarrow 0} \frac{0}{0}$$

In order to solve this problem we need to factor the function in order to remove x from the denominator.

$$\frac{x^2+x}{x} = \frac{x(x+1)}{x} = x+1; x \neq 0$$

Remember that the starting equation and end equation are not the same unless you add the condition that x cannot equal 0. Finally if you put 0 in for x in the second equation you can find the limit to be equal to 1. This method can help you solve similar problems.

$$\lim_{X \rightarrow 0} \frac{x^2+x}{x} = \lim_{X \rightarrow 0} x+1 = 1$$