In class we found 3 excellent polynomial approximations for transcendental functions. They are:

ex = 1 + 

cos x = 1 +  and sin x = 

**First Period:**  It was suggested that since i2 = -1, we could find cos (iθ) and sin (iθ) to change the signs of the alternating terms in those expansions. Therefore we did this:



And 

So 

But that’s bad form so let’s go back to using real numbers for our trig functions and let θ = ix.



Second Period: It was suggested that we use the power series for ex to find eiθ.  So we got



Note that both classes got the same result, but you went about it different ways. Can you follow both methods?