**Math 163: A somewhat Historical Approach to Power Series  
PS4: Focus on the coefficients  
Questions for flipped class**

**(PS4.1)**

Remind yourself how long division works with decimals: To find  in decimal form, we calculate 

**(PS4.2)**

Find a power series representation for  using long division

**(PS4.3)**

Find a power series representation for  using long division

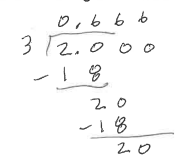
**(PS4.4)**

Find a somewhat general solution to  using power series.

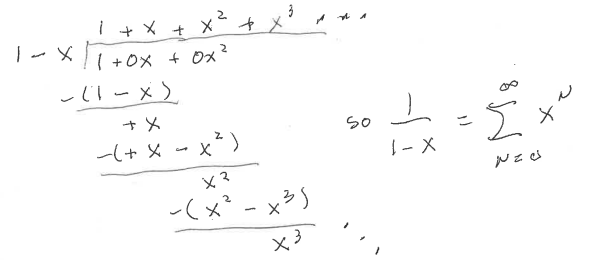
To do this, rewrite the equation above assuming a power series of the form below (Notice ):

Then set up equations matching coefficients. Separate the even and odd coefficients/terms.

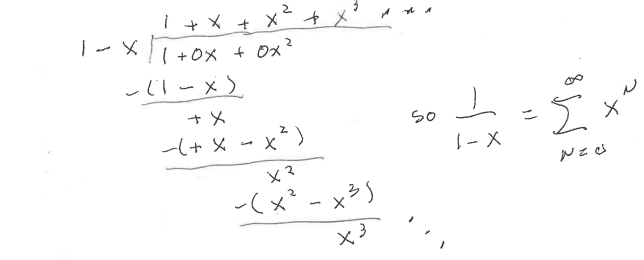
**(PS4.1 solution)**

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**(PS4.2 solution)**

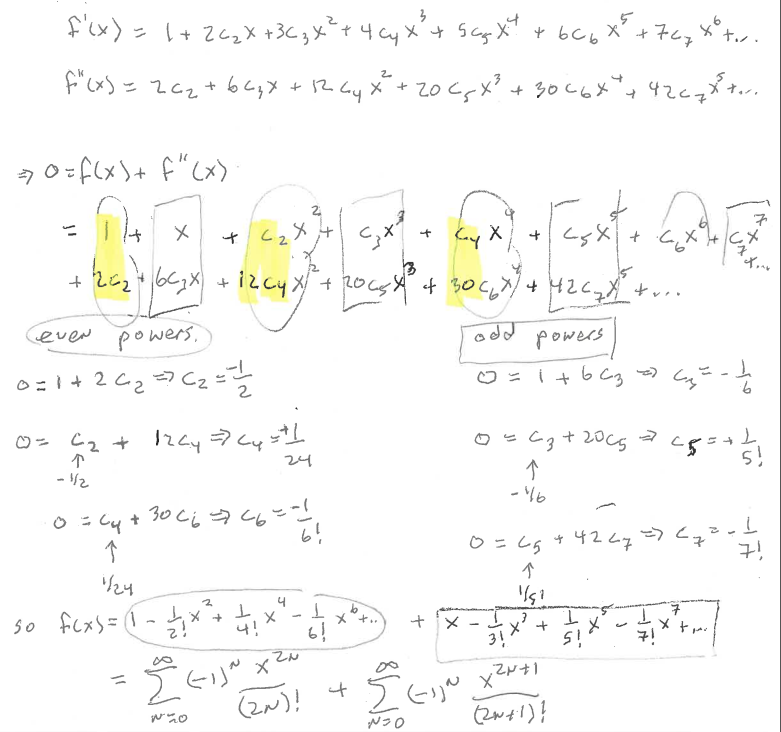
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**(PS4.3 solution)**



**(PS4.4 solution)**

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