**Write a few terms of a Laurent series:**

Fall 2017 #1: Done, need to write up nicely; **Done, typed**

Spring 2017 #1: Done, need to write up nicely; **Done, typed**

Fall 2016 #1: Not done; **Done, typed**

Spring 2016 #1: Not done; **Done, typed**

Fall 2015 #1: Not done

Spring 2015 #2: Not done

**Determine the radius of convergence for a power series:**

Fall 2017 #2: Done, written up

Spring 2017 #4: Not done; **Done, typed**

Fall 2016 #3: Really not done; **Done, typed**

Spring 2016 #2: Almost identical to Fall 2017 #2; **Done, typed**

Spring 2015 #4: Not done but should be similar to others; **Done, could type**

Fall 2015 #2: Identical to Spring 2016 #2

**Miscellaneous:**

Fall 2017 #3 (Showing sin rt z / rt z is entire): Done, **typed up**

Fall 2016 #2 (showing sum z^n/n converges): Done, need to type up

Spring 2015 #1 (describe values of (-1)^I, i^I, sqrt(i), ((1+i)/sqrt(2)))^I, etc.: Not done; **Done, should type up**

**Show a holomorphic function is constant**

**Open mapping theorem:**

Fall 2017 #4: Done, written up

Spring 2017 #4: Done, not written up

Fall 2016 #4: Just a special case of Fall 2017 #4

**Liouville’s theorem:**

Spring 2017 #5: Done, written up

Spring 2016 #4: Almost identical to S17 #5, still probably worth writing up; **Done, typed**

Fall 2015 #6: Done, can type up

Spring 2015 #6: Identical to Spring 2016 #5

**Other:**

Fall 2017 #6 (Schwarz reflection + identity principle): Done, written up

**Rouche’s theorem:**

Spring 2016 #5: Done at some point, need to write up

Spring 2015 #5: Not done, should be easy though; **Done, could type up**

Fall 2015 #7: Done, need to type up

**Evaluating integrals:**

**With roots:**

Fall 2017 #5: Really not done; **Done, typed up**

Fall 2016 #5: Identical to Fall 2017 #5

Fall 2015 #5: Really not done; **Done, should write up cuz I’m a dumbass. Use L’Hopital’s rule for residues.**

**Without roots:**

Spring 2017 #3: Not done; special case of spring 2015 #5; **Done, typed**

Spring 2016 #3: Really not done; **Done, written nicely but not typed**

Spring 2015 #5: Not done; **Done, could type**

**Infinite sum/product:**

Fall 2017 #7: Really not done; **Done, typed up**

Spring 2017 #7: Done, need to finish writing up; **Done, typed up**

Fall 2016 #8: Identical to Spring 2017 #7

Fall 2015 #8: Identical to Spring 2017 #7

**Elliptic curves:**

**Weierstrass form:**

Fall 2017 #8: Sort of done, need to do myself and write up nicely; **Done, typed up**

Spring 2017 #8: Identical to Fall 2017 #8

**Genus 1:**

Fall 2016 #9: Really not done; Not done; **Done, typed up**

Spring 2016 #8: Really not done;

**Show that there is a holomorphic function such that (…)^2 = …**

Spring 2017 #6: Done, written up nicely

Fall 2016 #7: Not done; **Done, typed**

Spring 2016 #6: Not done

Spring 2015 #8: Really not done; **Done, should type up**

**Harmonic functions:**

Spring 2016 #7: Done, should type up; **Done, typed**

Fall 2015 #9: Done, should type up; **Done, typed up**

Spring 2015 #9: Not done, should be easy; **Done, could type**

**Conformal mappings:**

Fall 2015 #4: Sort of done (by Grace), need to write up myself; **Done, typed**

Spring 2015 #3: Done, need to type up

Number “Really not done”: 8 ; **1**

Number “Not done”: 12; **3**

“Need to write up”: 12; **10**

Maybe look at Paul Garrett’s examples 07 solutions on conformal mappings