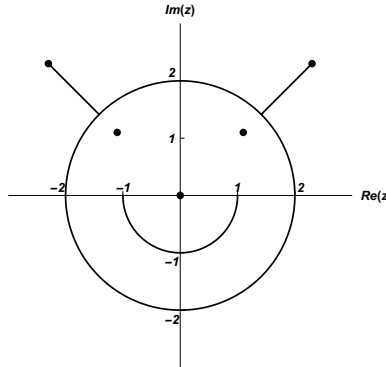


Graphing Complex Functions with Feather Boas – Handout

Use two pieces of adding machine paper that are about five feet long to create the real and imaginary axes. Tape them in place. Let S be the set of points in the set provided below. For each function below, use the materials provided to represent the image of the set S under the given function. After your team completes each graph with the materials provided, make a sketch of the resulting image.



1. $f_1(z) = z$

2. $f_2(z) = z^2$

3. $f_3(z) = iz$

4. $f_4(z) = iz + 1$

5. $f_5(z) = \text{Im}(z)$

6. $f_6(z) = z^{1/2}$

7. $f_7(z) = \frac{1}{z}$

8. $f_8(z) = \log(z)$

9. $f_9(z) = \bar{z}$

10. Keeping in mind that the image in the domain is symmetrical, find another function, $f_{10}(z)$, that transforms the given domain to the same range seen in Problem 9. Would this new function send *all* domains to the same image as, $f_9(z) = \bar{z}$ does?