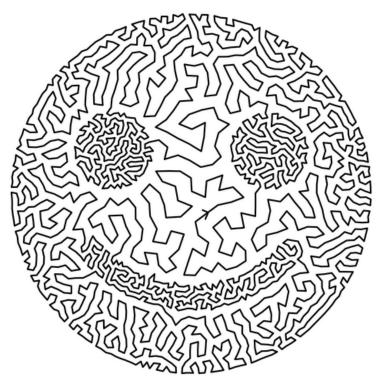
- (1) Find parameterizations of:
 - (a) The line segment from 1 + 2i to -1 3i.
 - (b) The upper semicircle of radius 3 around the point 2 + 4i.
- (2) Is the curve below oriented positively or negatively?



- (3) Parameterize the barbell shaped contour of problem #9 in section 4.1, but in the opposite direction from that shown.
- (4) Compute the following integrals:

(a)
$$\int_{0}^{2} (4t + 3it^{3}) dt$$

(b) $\int_{0}^{1} \frac{3t}{(t^{2} + i)^{3}} dt$
(c) $\int_{-1/2}^{1/2} \frac{1}{(1 - t^{2})^{1/2}} dt$

- (5) Evaluate the contour integral $\int_{\Gamma} (4z+1)dz$ when Γ is:
 - (a) The line segment from 1 to i.
 - (b) The counterclockwise arc on the unit circle centered at 0 from 1 to i.
- (6) Prove that $\left|\int_{\Gamma} (\text{Log}(z))^2 dz\right| \leq \frac{\pi^3}{8}$ if Γ is the counterclockwise arc on the unit circle centered at 0 from 1 to *i*.