

Panel 1

Complex Homework

① Show that $\left| \int_C \frac{z}{z^2-1} dz \right| \leq \frac{4\pi}{3}$ where C is the upper half of $|z|=2$

② Show that $\left| \int_C \frac{1}{z^4} dz \right| \leq 4\sqrt{2}$ where C is the line from $z=i$ to $z=1$

③ Evaluate (a) $\int_{C_1} z^2 + 3z dz$ (b) $\int_{C_2} \cos(z^2) e^z dz$
 (c) $\int_{C_3} \frac{3}{z} dz$

