

**Quiz V**

**Exercise 1.** Find the value of the integral of  $g(z) = 1/(z^2 + 4)$  around the circle  $|z - i| = 2$  in the positive sense.

**Exercise 2.** Which of the following is the Laurent series of  $g(z) = \frac{\cos(z)}{z^2}$ ?

(a)  $\frac{1}{4z} + \sum_{n=0}^{\infty} \frac{z^n}{4^{n+1}}.$

(b)  $\frac{1}{z^2} + \sum_{n=0}^{\infty} (-1)^{n+1} \frac{z^{2n}}{(2n+2)!}.$

(c)  $\frac{1}{z} + \sum_{n=0}^{\infty} \frac{z^{2n+1}}{(2n+3)!}.$

(d)  $\sum_{n=0}^{\infty} \frac{\sqrt{z}^n}{n!}.$