

**KFUPM**  
**Department of Mathematics and Statistics**

**MATH 302-2**  
Quiz 7, Term 101

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**Exercise 1.** Let  $f(z) = \frac{1}{z^2 - 4z + 3}$  and  $\Gamma$  be the positively oriented circle of center  $O$  and radius 2. Evaluate the integral  $\oint_{\Gamma} f(z)dz$ .

**Exercise 2.** Evaluate the integral

$$\oint_{\Gamma} \frac{\cos(z^2)}{(z-1)^2} dz,$$

where  $\Gamma$  is any positively oriented simple closed path enclosing 1.