Math 311 Quiz 2 Version A

1. Please fill in the missing blanks to make the definition correct.

Definition of Line Integral: Let f be a continuous function whose domain includes a smooth (or piecewise smooth) curve C in $\mathbf{R}^n$. If C is parametrized by $x = g(t)$ for $a \leq t \leq b$ then

$$\int_C f \, ds = \int_a^b \boxed{}.$$

2. Find $\int_C \sqrt{z} \, ds$ where C is parametrized by $g(t) = (2\cos t, 2\sin t, t^2)$ for $0 \leq t \leq 2\pi$.