

Math 116 - Quiz 2

Name: _____

Answer the following questions showing all work.

1. Let $f(x) = \int_1^{x^2} \frac{\cos^2(t)}{t} dt$.

a) Compute $f(-1)$. [3 points]

b) Compute $f'(3)$. [4 points]

2. Simplify $\int \sin^6(5\theta) \cos(5\theta) d\theta$. [3 points]

3. Let $f(x)$ be a continuous function, with some of its values in the table below. Compute the following definite integrals. Show all work.s

x	0	1	2	3	4
f(x)	2	1	-1	3	8
f'(x)	-2	0	2	1	12

a) $\int_1^2 4xf'(x^2)dx$ [5 points]

b) $\int_0^1 f'(x)e^{f(x)}dx$ [5 points]

c) [Extra Credit] $\int_1^3 xf''(x)dx$ [3 points]