

Test 1

MATH 129

February 2, 2018

Name: _____

Signature: _____

Show all your work!

1. [30 points] Calculate **Three** integrals from the following:

(a) $\int \frac{1 + e^x}{\sqrt{x + e^x}} dx$

(b) $\int \arctan(2x + 1) dx$

(c) $\int \sin^8 \theta \cos^3 \theta d\theta$

(d) $\int t^2 \ln t dt$

2. [30 points] Find the following integrals:

(a) $\int \frac{1}{z^2 + z} dz$

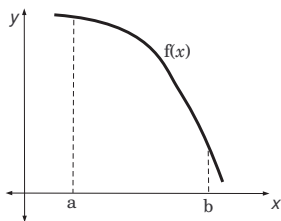
(b) $\int \frac{1}{x^2 + x + 1} dx$

3. [15 points] Find the following integral: $\int \frac{10}{(x+2)(x^2+1)} dx$

4. [15 points] Find the following integral: $\int \frac{1}{(16 - x^2)^{\frac{3}{2}}} dx$

5. [10 points] Order the following approximations to the integral $\int_a^b f(x) dx$ and its exact value from smallest to greatest, **EXPLAIN**:

LEFT(n), RIGHT(n), MID(n), TRAP(n), $\int_a^b f(x) dx$.



Extra page