

MATH 1572 SAMPLE MIDTERM I PROBLEMS

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The midterm exam will cover the Sections 10.1 - 10.9.

1. Evaluate the following integrals.

a) $\int_0^{\pi/2} \frac{\cos(x)\sin(x)}{3 + \cos^2(x)} dx$

b) $\int \frac{10}{(x-1)(x^2+9)} dx$

c) $\int_0^{\pi/2} \sin^8(x) dx$

d) $\int_0^1 5x^3\sqrt{x^2+1} dx$

e) $\int \frac{1}{x^2\sqrt{9-x^2}} dx$

f) $\int \cos(x)\ln(\sin(x)) dx$

g) $\int_{-1}^3 xe^{5x} dx$

h) $\int x^2 \sin(10x) dx$

i) $\int_e^{e^3} \frac{1}{x\ln(x)^2} dx$