Math 106 Quiz #7 March 19, 2018

• This is a closed-book quiz. No books, notes, calculators, cell phones, communication devices of any sort, or webpages, or other aids are permitted.

1. [20 points] Evaluate each of the following integrals. Simplify answers. Justify all steps.

(a) $\displaystyle \int \frac{x^6}{\sqrt{x^7 + 5}}\, dx$

(b) $\displaystyle \int_1^7 \sqrt{2x + 2}\, dx$

(c) $\displaystyle \int \frac{\sec^2 x}{(1 + \tan x)^{\frac{9}{7}}}\, dx$

1. (continued) Evaluate each of the following integrals. Simplify answers. Justify all steps.

(d) $\displaystyle\int_{\frac{\pi}{12}}^{\frac{\pi}{6}} \sin^3(2x)\cos(2x)\ dx$

(e) $\displaystyle\int_{1}^{2} \frac{1}{x^2\left(3 + \dfrac{1}{x}\right)^2}\ dx$

1. (continued) Evaluate each of the following integrals. Simplify answers. Justify all steps.

(f) $\displaystyle\int \frac{\sin(5 + \sqrt{x})}{\sqrt{x}}\, dx$

(g) $\displaystyle\int x(x + 1)^8\, dx$