

Math 222 In class assignment 3: Sections 7.1,7.2, half of 7.3

Name: _____

September 30, 2014

Directions: Work in groups to complete the following problems.

1. Integrate:

(a) $\int t^2 e^{5t} dt$

(b) $\int x \sinh(x) dx$

(c) $\int \cos^2(x) \sin(2x) dx$

(d) $\int \cot^5(\alpha) \sin^4(\alpha) d\alpha$

(e) $\int_{\pi/6}^{\pi/3} \cot^3(\theta) d\theta$

(f) $\int_0^3 \frac{x}{\sqrt{36-x^2}} dx$

(g) $\int_0^1 \frac{d\theta}{\sqrt{9-\theta^2}}$

2. For each of the following integrals, indicate whether integration by substitution or integration by parts is more appropriate. Evaluate.

(a) $\int w \sin(w) dw$

(b) $\int x e^{x^2} dx$

(c) $\int \frac{1}{\sqrt{3x+1}} dx$

(d) $\int x^2 \sin(x) dx$