

## Recitation #9: Integration by parts and Trig Integrals

### Group work:

**Problem 1** Evaluate the following integrals

(a)  $\int_1^3 x^2 5^x dx$

(b)  $\int \sin(3x)e^{7x} dx$

(c)  $\int x^{\frac{5}{3}} (\ln x)^2 dx$

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**Problem 2** Evaluate the following integrals

(a)  $\int x^5 \cos(x^3) dx$

(b)  $\int \cos(\sqrt{x}) dx$

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

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**Problem 3** Evaluate the following integrals

(a)  $\int \tan^{23} x \sec^6 x dx$

(b)  $\int \tan^2 x \sec x dx$      *Hint:*  $\int \sec x dx = \ln |\sec x \tan x| + C$

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

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**Problem 4** *Evaluate*

$$\int_{-\pi}^0 \sqrt{1 - \cos^2 x} \, dx.$$

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