

Name: _____ Sort #: _____

Worksheet 7

Integration by Parts & Trigonometric Integrals

MATH 2205, Fall 2018

1. (a) $\int t e^t dt$

(b) $\int_0^\pi x \cos(x) \, dx$

2. $\int x^3 e^x dx$

3. $\int_1^{e^2} x^2 \ln(x) \, dx$

4. $\int \sin^2(x) \cos^5(x) \, dx$

5. Use integration by parts to show that

$$\int \sec^3(x) \, dx = \frac{1}{2} \sec(x) \tan(x) + \frac{1}{2} \int \sec(x) \, dx.$$