Integration by Parts Groupwork

MATH 131: Calculus II, Sections 2 and 3
October 23, 2015

(1) $\int_0^{\frac{\pi}{4}} x \sec^2 x \; dx$ (Note: We can do this with with definite integrals too! Don't forget to evaluate both parts!)

(2) $\int \arctan x \; dx$ (Note: Only one function! What is dv? What is ALWAYS part of dv?)

(3) $\int x^2 \sin x \; dx$ (Note: This has a small extra twist!)

(4) $\int e^x \cos(2x) \; dx$ (Note: This one involves an extra cool trick! Look for patterns!)

(5) Challenge/Preview: $\int_0^1 \ln(x^2+1) \; dx$ (Note: you should end up with an improper fraction at some point. That is, a fraction whose numerator has a degree at least as large as its denominator. How can you eliminate the improper fraction? You read about this in Section 7.1!)