

INTRODUCTION TO CALCULUS

MATH 1A

UNIT 29: WORKSHEET

Integration by parts

Problem 1: Find the anti-derivative of

$$\log(2x)\sqrt{x}$$

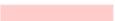
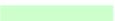
Problem 2: Find the anti-derivative of

$$x \sin(5x) .$$

Problem 3:

Stand and deliver!

Find the anti-derivative of $x^3 \sin(2x)$ using Tic-Tac-Toe!

Differentiate	Integrate	Signs
x^3	$\sin(2x)$	
		
		
		
		

**Problem
4:**

If you want to get into Guinness, see whether you can

integrate $\int x^{150} \exp(x) dx$

Submit to <https://guinnessworldrecords.com>.



FIGURE 1. A screen shot of the integral of $x^{150} e^x$.



FIGURE 2. Guinness