

## Math 220 - Calculus f. Business and Management - Worksheet 33

### Worksheet 33 - Integration by Parts

**Exercise 1:** Look at each function below. Assume that you will use integration by parts to find the integral of those functions. Choose which part of each function will be  $u$  and which part will be  $dv$ . Don't forget to include  $dx$  with the part that will be  $dv$ . Note that some functions may require some change in their form before choosing  $u$  and  $dv$ .

**1a**  $(x + 6)e^{2x}$    **1b**  $\frac{2x - 3}{e^{5x}}$    **1c**  $5x^3 \ln x$    **1d**  $\frac{2 \ln x}{x^5}$    **1e**  $\log_3 x$    **1f**  $x^4 \ln \sqrt[3]{x}$

**Exercise 2:**

Using the functions for  $u$  and  $dv$  in problem 1, find  $du$  and  $v$ . Remember that  $dx$  will appear with the function for  $dv$ .

**Exercise 3:**

Find the integral of each function in problem 1.