

## Evaluate the following using integration by parts

1.  $\int x \ln(x) dx$

2.  $\int xe^x dx$

3.  $\int x^3 e^{x^2} dx$       Hint:  $u = x^2$  and  $dv = xe^{x^2} dx$

4.  $\int \ln(x) dx$

5.  $\int \ln(x)^2 dx$