

# Evaluate the following

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

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

3.  $\int \ln(x) \, dx$  (Hint:  $u = \ln(x)$  and  $dv = dx$ )

4.  $\int \ln(x)^2 \, dx$