## Worksheet 2/18/2019

Compute the following integrals using integration by parts.

(a)  $\int \ln x dx$  with  $u = \ln x$  and dv = dx.

(b)  $\int_1^2 x \ln x dx$  with  $u = x \ln x$  and dv = dx.

(c)  $\int \arctan dx$  with  $u = \arctan x$  and dv = dx.

(d)  $\int_0^{\pi/2} x^2 \cos x dx$  with  $u = x^2$  and  $dv = \cos x dx$ .