

SECTION 3.1: INTEGRATION BY PARTS

1. The Integration by Parts Formula

2. Evaluate the integrals.

(a) $\int x e^x dx$

(b) $\int \ln(x) dx$

(c) $\int x^2 \cos(x) dx$

(d) $\int e^x \cos(x) dx$

(e) $\int_0^1 xe^{-3x} dx$

(f) Find the area bounded between $f(x) = \arctan(x)$ and the y -axis between $x = 0$ and $x = 2$.