

(7.1) Integration by Parts

Full Name: _____

1. Use integration by parts to evaluate each of the following indefinite integrals.

(a) $4x \sin(4x) + \cos(4x) + C$

(b) $3ye^{5y} - \frac{3}{5}e^{5y} + C$

(c) $-16x^2 \cos(2x) + 2x \sin(2x) + 8 \cos(2x) + C$

(d) $64p^3 e^p - 192p^2 e^p + 384pe^p - 384e^p + C$

(e) $x \ln(12x) - x + C$

(f) $\frac{1}{2}w^{16} \ln(2w) - \frac{1}{32}w^{16} + C$

(g) $9y \tan^{-1}(3y) - \frac{3}{2} \ln(9y^2 + 1) + C$

(h) $-\frac{25}{26}e^{5x} \cos x + \frac{125}{26} \sin x + C$