

Name:

Section: 7 8

1. Use integration by parts to evaluate the following integrals.

(a) $\int x e^{3x} dx$

(b) $\int x^2 \ln(x) dx$

2. Use the methods we discussed in lecture to find the following limits.

(a) $\lim_{x \rightarrow 0} \frac{\sin x}{1 - \cos x}$

(b) $\lim_{x \rightarrow 0^+} x \ln(\sin x)$

(c) $\lim_{x \rightarrow \infty} \left(1 - \frac{1}{x}\right)^{2x}$