

Name:

Section: 5 6 9 10

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

(a) $\int x e^{2x} dx$

(b) $\int x \ln(4x) dx$

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

(a) $\lim_{x \rightarrow \frac{\pi}{2}^+} \frac{\cos x}{1 - \sin x}$

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

(c) $\lim_{x \rightarrow \infty} \left(1 + \frac{2}{x}\right)^{3x}$