

MATH 152
Mrs. Bonny Tighe

QUIZ 3A

7.7, 8.1
25 points

NAME _____

Section _____ Wed. 2/22/06

1. Find the limit. Use l'Hospital's Rule where appropriate. If there is a more elementary method, consider using it. If l'Hospital's Rule doesn't apply, explain why.

a) $\lim_{x \rightarrow 2} \frac{3x}{x-2} =$ _____

b) $\lim_{x \rightarrow \infty} \frac{e^x}{x^3} =$ _____

c) $\lim_{x \rightarrow 0} \frac{x}{\sin^{-1} x} =$ _____

d) $\lim_{x \rightarrow \infty} \frac{(\ln x)^2}{x} =$ _____

e) $\lim_{x \rightarrow 0^+} \sqrt{x} \ln x =$ _____

f) $\lim_{x \rightarrow \infty} \left(\frac{x+1}{x+2} \right)^x =$ _____

2. Evaluate the integrals.

a) $\int x \cos 2x dx$

b) $\int \frac{\ln x}{x^2} dx$

c) $\int \frac{x}{e^{3x}} dx$

d) $\int \sin(\ln x) dx$

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