

MATH 152
Mrs. Bonny Tighe

QUIZ 3

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) $\lim_{x \rightarrow 2} \frac{x^2 - 4}{x - 2} =$ _____

b) $\lim_{x \rightarrow \infty} \frac{x^2}{e^x} =$ _____

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

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

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

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

2. Evaluate the integrals.

a) $\int x \sin 3x dx$

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

c) $\int x e^{-2x} dx$

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

e) $\int e^{2x} \sin x dx$