

MATH 126 SPRING 2011, QUIZ 6

1. Determine whether each integral is convergent or divergent. Evaluate those that are convergent.

a.  $\int_1^{\infty} \frac{1}{(3x+1)^2} dx$

b.  $\int_{2\pi}^{\infty} \sin \theta d\theta$

c.  $\int_0^2 z^2 \ln z dz$

2. Use the Comparison Theorem to determine whether the integral is convergent or divergent. (Hint: One is convergent and one is divergent.)

a.  $\int_1^{\infty} \frac{1}{x+e^{2x}} dx$

b.  $\int_0^{\pi/2} \frac{1}{x \sin x} dx$