

MATH 126 SPRING 2011, QUIZ 10

- (1) Determine whether the series is convergent or divergent. (Note you do NOT need to determine the actual value for convergent series.)

a.  $\sum_{n=2}^{\infty} \frac{\sqrt{n}}{n-1}$ .

b.  $\sum_{n=2}^{\infty} \frac{n^2-1}{n^2}$

c.  $\sum_{n=1}^{\infty} \frac{1+\sin n}{10^n}$

d.  $\sum_{n=0}^{\infty} \frac{(-\pi)^n}{3^{n+1}}$

e.  $\sum_{n=1}^{\infty} \arctan n$ .

- (2) What is the value of  $c$  if  $\sum_{n=2}^{\infty} (1+c)^{-n} = 2$ ?