

## Math 276 Discussion Worksheet 15

1.

a. convergent, since  $\frac{1}{n(n+1)} = \frac{1}{n} - \frac{1}{n+1}$

b. convergent, use  $|\sin(n)| \leq 1$  and the comparison test

c. convergent, use the root test

d. convergent, use  $|\sin(2^n)| \leq 1$  and the ratio test

2. (a)  $(-\infty, \infty)$ , use the Weierstrass M-test (b)  $(-\infty, \infty)$  (c) 0.

3. a.  $(-1, 1)$       b.  $[-1, 1)$       c.  $(-\infty, \infty)$       d.  $(-1/3, 1/3)$