

If you think some of these are wrong, please email me.

### Series Mish-Mash

1. Determine whether each of the following series is absolutely convergent, conditionally convergent, or divergent. Are there any other tests that would have worked?

- |        |        |        |
|--------|--------|--------|
| (a) AC | (j) AC | (s) AC |
| (b) AC | (k) D  | (t) AC |
| (c) AC | (l) D  | (u) D  |
| (d) CC | (m) AC | (v) D  |
| (e) AC | (n) AC | (w) AC |
| (f) AC | (o) D  | (x) D  |
| (g) D  | (p) CC | (y) D  |
| (h) AC | (q) AC | (z) CC |
| (i) AC | (r) D  |        |

2. AC:  $1 < p$ , CC:  $0 < p \leq 1$ , D:  $p \leq 0$

3.  $p > 1$

4. Both converge

5.  $\sum \frac{2+\sin n}{n}$

6. State the conditions necessary to use each of the following tests:

- (a) pos, decreasing, f must be cts
- (b) pos
- (c)  $b_n$  dec,  $\lim = 0$ . Must be alternating
- (d)  $L \neq 1$