MAT 162 Test 3 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fall 2018 Version 1

For full credit, show all work.

1. Tell why each series is conditionally convergent, absolutely convergent or divergent.
2. Find the radius and interval of convergence for f(x) = .
3. Use a power series to estimate with an error less than .
4. Use the fact that the following series is a telescoping series to calculate exactly.
5. Calculate exactly.
6. Use the integral test to determine the number of terms in the partial sum for that will estimate the infinite series with an error less than