

Name: _____

Panther ID: _____

Worksheet week 11 -

Calculus II - Spring 2016

To receive credit you MUST SHOW ALL YOUR WORK.

1. Decide whether each of the series below are absolutely convergent, conditionally convergent, or divergent

(a) $\frac{1}{1} - \frac{2}{3} + \frac{3}{5} - \frac{4}{7} + \frac{5}{9} - \frac{6}{11} + \dots$

(b) $\frac{1}{\sqrt{1}} - \frac{1}{\sqrt{2}} + \frac{1}{\sqrt{3}} - \frac{1}{\sqrt{4}} + \dots$

(c) $\frac{1}{2} - \frac{1}{5} - \frac{1}{10} + \frac{1}{17} - \frac{1}{26} - \frac{1}{37} + \dots$

(d) $\sum_{k=1}^{+\infty} (-1)^k \frac{k!}{(2k-1)!}$

2. Use the error estimate for an alternating series to find out a value of n for which the n th partial sum S_n of the series

$$\frac{1}{\sqrt{1}} - \frac{1}{\sqrt{2}} + \frac{1}{\sqrt{3}} - \frac{1}{\sqrt{4}} + \dots$$

will approximate of the sum of the series with an error less than 0.001.