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| Test 2Dusty Wilson Math 153 No work = no credit  No Symbolic Calculators | | **Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *Notable enough, however, are the controversies over the series 1 - 1 + 1 - 1 + 1 - ... whose sum was given by Leibniz as 1/2, although others disagree. ... Understanding of this question is to be sought in the word "sum"; this idea, if thus conceived -- namely, the sum of a series is said to be that quantity to which it is brought closer as more terms of the series are taken -- has relevance only for convergent series, and we should in general give up the idea of sum for divergent series.*  Leonard Euler (1707 - 1783)  Swiss mathematician | |
| Warm-ups (1 pt each): | =\_\_\_\_\_ | =\_\_\_\_\_ | =\_\_\_\_\_ |

(1 pt) According to Euler, what mathematician struggled to understand 1-1+1-1+…? Answer using complete English sentences.

(10 pts) Does diverge? If not, is it conditionally or absolutely convergent? Justify your answer.

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(10 pts) Does the sequence  diverge? If not, determine the value to which it converges.

(10 pts) Does diverge? If not, is it conditionally or absolutely convergent? Justify your answer.

(10 pts) Write  as the ratio of two integers (as a fraction).

(10 pts) Does diverge? If not, find the exact sum of the series? Justify your answer.

(10 pts) Does diverge? If not, is it conditionally or absolutely convergent? Justify your answer.

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