Partial Sums

Tucker MacIntyre

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1. The partial sum that I have created is $\sum_{i=1}^{n} = \frac{3i}{5^{(i-1)}}$

   The first 15 terms from the series I created are: [0.12, 0.168, 0.1824, 0.18624, 0.1872, 0.1874304, 0.18748416, 0.18749645, 0.18749921, 0.18749983, 0.18749996, 0.18749999, 0.1875, 0.1875, 0.1875]// The last 15 terms are not needed as they all are equal to 0.1875.

2. I believe the first series diverges as the series continues to grow even after the 65000th term, even though the growth is minimal.

   I believe the second series diverges as even though there is not much motion throughout the lower terms that are generated, once you reach the larger terms it does not seem that it is going to converge to a sole term.

   I believe that the third series converges as eventually after so many terms, the summation stays the same and converges to 0.1875.

3. I had went up to 65000 terms to determine my results on convergence. The reason for going so far, is with the second series looked like it was going to converge throughout the lower terms but took explosive turns when adjusted to the higher terms.