

# Partial Product

Tucker MacIntyre

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1. The partial product that I have created is  $\prod_{i=1}^n \frac{5(3+i^2)}{3+i}$

The first 15 terms from the series I created are: [5.00000000e+00, 3.50000000e+01, 3.50000000e+02, 4.75000000e+03, 8.31250000e+04, 1.80104167e+06, 4.68270833e+07, 1.42609754e+09, 4.99134138e+10, 1.97733909e+12, 8.75678738e+13, 4.29082582e+15, 2.30631888e+17, 1.34987487e+19, 8.54920752e+20]//  
The last 15 terms are all infinity.

2. I believe the first series converges to 0.66666667, as eventually the product of all terms continues to equal 0.66666667 after enough terms.

I believe the second series converges to zero, as after enough terms the product of the terms continues to equal zero after enough terms.

I believe the third series diverges, as after enough terms the product of them continues to equal infinity after enough terms.