1.4 Partial Product

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The partial products terms I utilized is:

$$\prod_{i=1}^{n} \frac{(-1)^i \theta(2i+1)}{(2i+1)!}$$

Where the current value of θ is 90.

The first provided product converges to what appears to be $0.\overline{6666}$.

The second provided product converges rapidly.

For the partial sum that I created, the sum oscillates with a growing degree of variance until around 45, at which point the variance decrees until 60 where it appears to converge to $-7.005 \times 10^2 1$. This "convergence" appears to hold for at least $n = 20000$ terms.