I.4 Partial Product

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The partial product I created is $an = \prod_{1=1}^{N} \frac{i^e - e^i}{e^i + i^e} + 2$. I found that this function converges fairly quickly to about 52. N>710

$pn = \prod_{i=2}^{N} \frac{i^3-1}{i^3+1}$

I think that the partial product pn converges to 0.67 . Initially it appears as if the partial product is oscillating between zero and 0.67 but as N increases the amplitude of the oscillation is decreasing significantly until the partial product consistently equals 0.66666667

$qn = \prod_{i=1}^{N} \frac{e^{i/100}}{i^{10}}$

I think that the partial product pn converges towards zero because all of the partial sums when $N \geq 30$ is equal to zero.