Problem I.4: Partial Product

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The partial product I created was,

$$r_n = \prod_{i=1}^{n} \frac{e * i^2}{\pi * j}$$

The series p_n will diverge because it continues to decrease as the number of terms increases. I tried up to 10,000, but only eight decimals are printed. It looks like it converges, but when the product is printed, the number is still decreasing.

The series q_n will converge because it continuously gets smaller rather quickly and with only 30 terms I can see it converging to zero.

The series r_n will converge to infinity because it is continuously increasing and with 180 terms, the last 7 terms printed are ïnf̈since the number is too large for the program to show.