Problem I.9 - Partial Product 2

Allison Davis

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1. Partial Products of the form:

$$\prod_{n=1}^{\infty}(1+\frac{f(n)}{g(n)})$$

This type of infinite series converges when the degree of $g(n)$ is greater than the degree of $f(n)$. The series diverges to infinity when the degrees are equal or when the degree of $f(n)$ is greater than the degree of $g(n)$.

2. Partial Products of the form:

$$\prod_{n=1}^{\infty}(1+b^n)$$

These types of infinite series seem to converge when $|b|<1$. They diverge when $|b|>1$.