Section 11.9: Additional Problems

1. Find a power series for the function $f(x)$.

$$f(x) = \frac{5}{(1 - 5x)^2}$$

2. Find a power series for the function $f(x)$.

$$f(x) = x^2 \ln(1 + x^2)$$

3. Find a power series for the function $f(x)$.

$$f(x) = \frac{x}{(1 + 2x^3)^2}$$

4. Find the derivative of $g = \dfrac{x^2}{1 - x}$ using power series.

5. Find the derivative of $f(x) = x^2 \ln(1 + x^2)$ using power series.

6. Compute $\displaystyle\int \arctan(x^3)\, dx$