

Calculus 1B Quiz 5

Name:

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1. (1 point) Express

$$\frac{x^6}{3 - x}$$

as a power series centered at $x = 0$.

2. (1 point) Find the Taylor series of

$$x^4 + 3x$$

centered at $x = 2$.

(turn over)

3. (1 point) The series

$$\sum_{n=0}^{\infty} \frac{\ln(x)^{n+1}}{(n+1)!}$$

converges for all $x > 0$. What function does this series represent?

(In class hint: What power series in x does this look like? Imagine $\ln(x) = z$.)