Math 1552 Summer 2023	Name (Print):	
Quiz 6 July 13 Time limit: 20 Minutes	Teaching Assistant/Section:	
	0	

GT ID:					

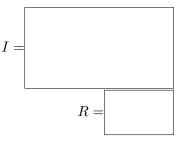
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Sign Your Name: _____

Please clearly organize your work, show all steps, simplify all answers, and BOX your answers.

1. (5 points) Find the interval I and radius R of convergence of the given power series. For the interval of convergence, give your answer using interval notation or using inequality notation.

$$\sum_{n=1}^{\infty} \frac{\sqrt{n}x^n}{3^n}$$



2. (5 points) Find the Taylor series expansion of f(x) at x = 0 for the given function. If you use a known (common) Taylor series, please carefully state the known series that you are using as part of your work.

$$f(x) = \frac{4x}{1+x^3}$$

$$f(x) =$$

3. (10 points) Determine if the given alternating series converges absolutely, converges conditionally, or diverges.

(a)
$$\sum_{n=1}^{\infty} \frac{(-1)^n}{\sqrt{n^3 + 1}}$$

(b)
$$\sum_{n=1}^{\infty} \frac{(-1)^n n!}{3^n}$$