

## Math 301 — Quiz 3

*Summary.* Please do the following problems. You may use your book, notes, and other class materials, but you may not consult with each other or use any other resources. You may use LaTeX or handwrite your solutions. Please do whichever you prefer.

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**Problem 1.** Prove, by giving an  $\epsilon$ - $N$  proof, that the following sequence converges:

$$a_n = \frac{2n + 3}{n^3 - 32}, \quad n \geq 1.$$

**Problem 2.** Prove that the sequence  $(-1)^n n/3$  diverges.