

Name: \_\_\_\_\_

**Math Club: Contest Week Six**

---

**Release Date:** November 16, 2022

**Instructions:** Solve the following problem the best you can, first to submit the correct solution via email or the secretaries in Room 332 (with time stamp) wins!

**Problem 1.** Show that 53 divides every number of the form

1007

10017

100117

1001117

10011117

$\vdots$