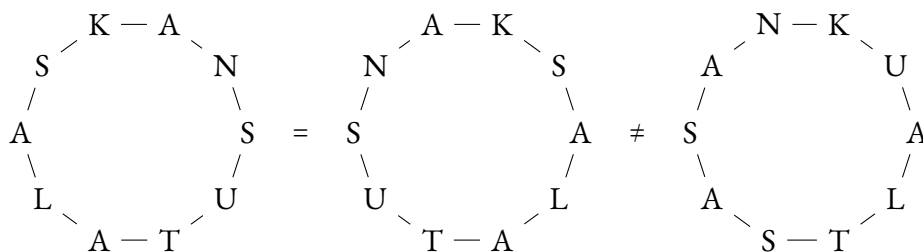


NMU Math & CS Department

Problem of the Month, December/January 2024-25

Here we have a (I wouldn't say "easy", but quite approachable) christmas-themed problem of the month to think about while school is out for the holiday season! See next page for rules and information.

Suppose you are making a circular bracelet using ten beads, where each bead corresponds to one of the letters in the word "SANTAKLAUS". Notice that you are free to rotate and turn over the bracelet. Some examples are illustrated below.



Notice that the first (2) bracelets are equivalent by turning the bracelet over along the vertical line, and the third bracelet is inequivalent to the previous two.

How many **distinct** bracelets like this can be made?

The NMU Mathematics and Computer Science Department invites you to participate in the 2024/2025 Problem of the Month contest to have some fun and get a little recognition. There are paper copies of the problems available at the department front desk if you'd like.

Rules: Anyone is welcome to submit a solution, and all correct solutions will be recognized; but only undergraduates enrolled in coursework at NMU are eligible to win the prize at the end of the year. The first student to submit a correct solution is the winner of the month. The top problem solver for the academic year will receive a fabulous prize, and be recognized at the department year-end celebration. You must write clear and complete solutions to the problems. You must include your name, NMU ID, address, phone, email, and exact date/time of your submission. You may either submit in person at the department front desk (use a staple if there are multiple pages), or email your solution in pdf format to darowe@nmu.edu.