MATH 113: DISCRETE STRUCTURES
WEDNESDAY WEEK 5 HANDOUT A

Problem 1. Here's a puzzle I stole from Danica Mckellar (yes, *that* Danica Mckellar). Recall that a palindrome is a word or phrase which reads the same forwards and backwards (*e.g.*, "never odd or even").

> Q: A particular mathematician only speaks in palindromes. What did she say when she was offered cake?
> A: I prefer pi.

How many other palindromes can be formed from the letters in "I prefer pi"? (Ignore punctuation, spaces, and sensibility.)

Problem 2. What is the coefficient of x^3 in the polynomial $(\sqrt[3]{2} + x)^6$?