Turn in your solution to at least two of the problems. **Explain your solution in full sentences.** Give detailed reasonings. Include diagrams and figures if appropriate.

**Problem 1.** What is the smallest positive integer consisting of only 0's and 1's that is divisible by 225?

**Problem 2.** What is the volume of a regular tetrahedron whose edge length is 1?

**Problem 3.** Five pumpkins are weighed in pairs. The 10 resulting weights are, in pounds, 16, 18, 19, 20, 21, 22, 23, 24, 26 and 27. How much does each pumpkin weigh?