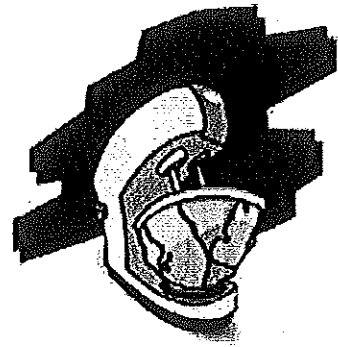# Problem of the Month

Sorting the Mix

Level A

Ms. Gavin asked her class to make a chart of the people who lived with them, including the students themselves. The nineteen students each recorded their number in the following chart.

2, 2, 3, 3, 4, 4, 4, 5, 5, 6, 6, 6, 6, 6, 7, 8, 8, 8, 10

8	4	2	10	4	5	6
6	3	6	8	7	3	5
2	6	8	6	4		

What is the most common number of people who live together (mode)? Explain.

6

What is the middle number if all numbers were arranged in order (median)? Show how you figured it out.

6

Suppose two new students joined the class. They each add the number of people who live in their homes to the chart. The middle number now switched to a different number. What numbers could have been added? Explain.

Anything less than 6. Moves the median to 5.

Not only did the middle number change, but now the most common number also changed. Which numbers could have been added?

4 ~~____~~ Then there are 2 modes.

You find out that the middle number changed to a smaller number; what is the new middle number? What is the new, most common number? What numbers were added? How do you know for sure?

New $M = 5$

Modes $= 4 \& 6$

2 4's were added