

### Mean, median, mode puzzle

Create a list of non-negative integers (i.e. whole numbers) such that the mean, median, and mode are single, integer values, and which satisfy:

- (1) Mean < Median < Mode
- (2) Mean < Mode < Median
- (3) Median < Mean < Mode
- (4) Median < Mode < Mean
- (5) Mode < Mean < Median
- (6) Mode < Median < Mean

Your score for each of the 6 challenges is the largest number you used in your list of numbers. Your goal is to have the smallest score possible.

For example, consider the list 1, 1, 2, 2, 6, 6, 7, 7, 7, 11. This has mean  $50/10 = 5$ , median of  $(6 + 6)/2 = 6$ , and mode 7. This satisfies challenge (1), with a score of 11 (this is not a good score).