

## **Name the Six**

We have a set of 6 positive integers about which we have calculated the following:

maximum = 24, mean = 10, median = 5, and the mode is one (1).

List the six numbers.

Bonus: Construct a similar problem which gives statistical measures on a unique, solvable set of integers, and describe a solution method for it.

## Solutions

The six are 1, 1, 1, 9, 24 and 24.

The required members at the outset are 1, 1,  $a$ ,  $b$ ,  $c$  and 24. Since the median is 5,  $a+b = 10$ . The sum of the set is 60 which requires  $c = 24$ . Since the mode is one (1), there must be a third occurrence of it. Setting  $a = 1$ , gives  $b = 9$ .