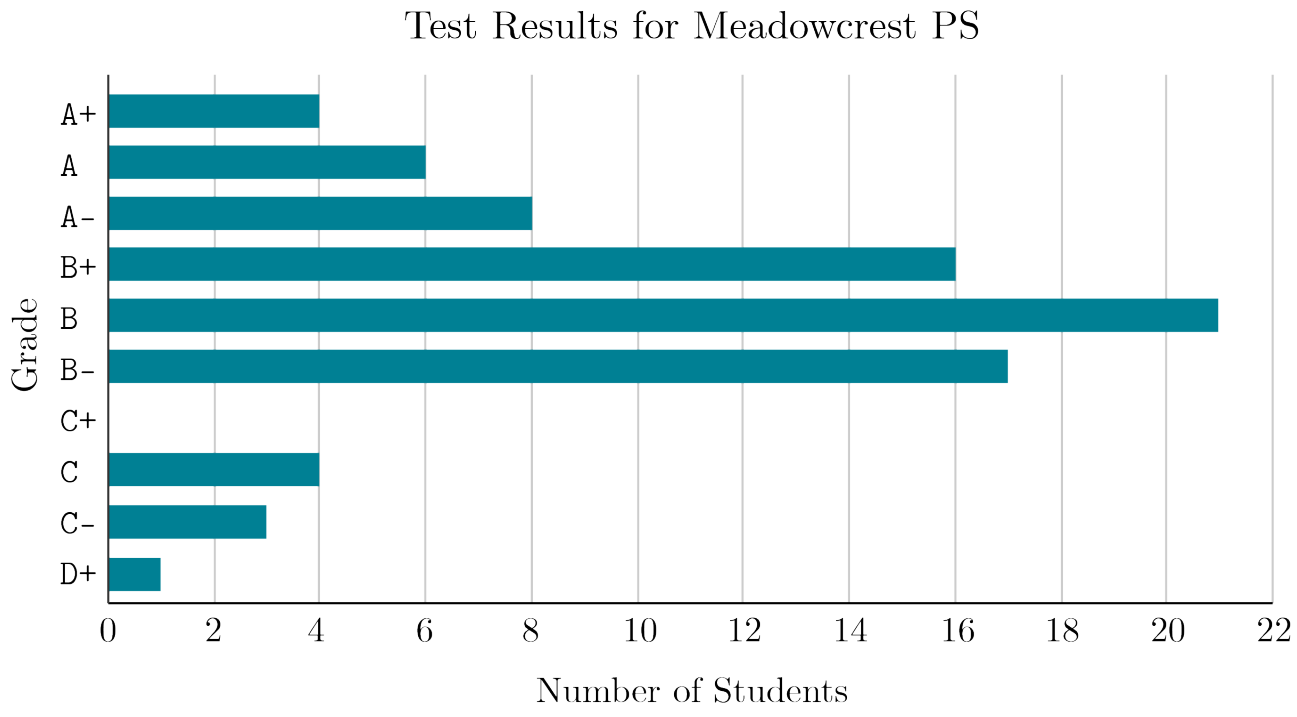
Problem of the Week
Problem A and Solution
Test Results

Problem

The students in Meadowcrest Public School wrote a standardized math test. The bar chart below shows the results of the test. Reading the grades from top to bottom in the bar chart, the grades appear from highest to lowest. In other words, `A+` is the highest grade and `D+` is the lowest grade.



(a) How many students wrote the test?

(b) What is the mode of the test results?
(The mode is the score that occurs the most often.)

(c) If a grade of `B-` or higher means meeting or exceeding expectations, how many students are meeting or exceeding expectations?

Solution

(a) We can read the bar graph to determine how many students earned each grade on the test. The following table summarizes the results in the bar graph:

Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+
Number of Students	4	6	8	16	21	17	0	4	3	1

So the total number of students who wrote the test is:
$4 + 6 + 8 + 16 + 21 + 17 + 0 + 4 + 3 + 1 = 80$

(b) The mode of the data matches the longest bar in the graph. In this case the mode is B since that is the grade with the longest bar.

(c) If we only consider the grades of B- or higher, we can add together the number of students who achieved grades of A+, A, A-, B+, B, and B-. This gives $4 + 6 + 8 + 16 + 21 + 17 = 72$.

Alternatively, we can subtract the number of students who achieved grades below B- from the total we found in part (a). This gives $80 - 4 - 3 - 1 = 72$.