

Problem of the Week
Problem A and Solution
Ticket Task

Problem

Shubhleen is trying to figure out how many tickets she needs to print for the school spring concert. From past years, she has determined the following plan:

- For Grades 1 through 4, if she multiplies the number of students in the grade by 2 and then adds 7, she will be very close to the number of tickets needed for each of those classes.
- For Grades 5 and 6, if she multiplies the number of students in the grade by 2 and then subtracts 5, she will be very close to the number of tickets needed for each of those classes.

If the school has the following number of students in each grade, how many tickets should Shubhleen print based on her plan?

Grade	Number of Students
1	21
2	18
3	30
4	24
5	22
6	24

Solution

For each grade, we first multiply the number of students by 2, and then we either add 7 or subtract 5, depending on the grade. This is summarized in the following table.

Grade	Number of Students	Number of Students $\times 2$	Total Tickets
1	21	$21 \times 2 = 42$	$42 + 7 = 49$
2	18	$18 \times 2 = 36$	$36 + 7 = 43$
3	30	$30 \times 2 = 60$	$60 + 7 = 67$
4	24	$24 \times 2 = 48$	$48 + 7 = 55$
5	22	$22 \times 2 = 44$	$44 - 5 = 39$
6	24	$24 \times 2 = 48$	$48 - 5 = 43$

So the total number of tickets that Shubhleen would print based on her plan is:

$$49 + 43 + 67 + 55 + 39 + 43 = 296$$