Problem of the Week
Problem A and Solution
How Many Plants?

Problem

Last year, POTW Farms grew watermelons. They used two different sizes of garden plots: single garden plots and double garden plots. In a single plot they grew one watermelon plant, and in a double plot they grew two watermelon plants. This year, they are planning to grow cantaloupes instead of watermelons. In each single plot they will grow five cantaloupe plants and in each double plot they will grow ten cantaloupe plants. The farm has 14 single plots and 26 double plots.

(a) How many watermelon plants did the farm grow last year?

(b) How many cantaloupe plants are they expecting to grow this year?

Solution

(a) Since each double plot contained two watermelon plants, there were $2 \times 26 = 52$ watermelon plants in the double plots. This means there were a total of $14 + 52 = 66$ watermelon plants.

(b) Since they expect to grow 5 cantaloupe plants in each single plot, they expect to grow $5 \times 14 = 70$ cantaloupe plants in the single plots. Since they expect to grow 10 cantaloupe plants in each double plot, they expect to grow $10 \times 26 = 260$ cantaloupe plants in the double plots. This means POTW Farms is expecting to grow $70 + 260 = 330$ cantaloupe plants.