

26: Strawberry Delirium

You might have solved the problem in Hint #3 by the TRIAL AND ERROR METHOD listing some of the possibilities. For example, we know that Greg, Ann, and Sam each picked a different number of quarts of strawberries and that those numbers are consecutive. Perhaps they were among the sequence 1, 2, 3, 4, 5, 6, 7, 8, 9. Since we know that the numbers must sum to 15, inspection shows that four, five, and six are our numbers. This approach does not lend itself readily to more complex problems, but you could re-examine these results in an attempt to develop a more generally applicable approach to problems of this nature.

Suppose we kept the same number of people, three, and temporarily changed the information given so that each person picked as many quarts of strawberries as the person who picked the most, Greg. Now, the total number of quarts of strawberries picked would have been 15 quarts plus 1 quart (to make Ann's number equal Greg's) plus 2 quarts (to make Sam's number equal Greg's), or 18 quarts. Greg would have picked 18 quarts divided by 3, or 6 quarts. Then Ann would have picked one quart less, or five quarts, and Sam would have picked two quarts less, or four quarts.

Thus a simple rule or procedure for solving such problems might be: add each of the differences from the highest number to the total number of items and divide by the number of participants to find the number of items generated by the highest contributor. Then subtract the differences one at a time from the number of items generated by the highest contributor to calculate the number of items generated by each participant.

In our problem Betty was the highest contributor; consequently, we add to the total of 154 quarts of strawberries 4 quarts difference for Al, 7 quarts difference for Jose, and 11 quarts difference for Linda for a total of 176 quarts. Betty picked 176 quarts divided by 4, or 44 quarts. Al picked 4 quarts less, or 40 quarts, Jose picked 7 quarts less, or 37 quarts, and Linda picked 11 quarts less, or 33 quarts. The price of strawberries per quart is \$192.50 divided by 154 quarts, or \$1.25 per quart. Hence:

Betty's share is $\$1.25/\text{qt.} \times 44 \text{ qts.} = \55.00
Al's share is $\$1.25/\text{qt.} \times 40 \text{ qts.} = \50.00
Jose's share is $\$1.25/\text{qt.} \times 37 \text{ qts.} = \46.25
and Linda's share is $\$1.25/\text{qt.} \times 33 \text{ qts.} = \41.25

LOOKING BACK

You usually should check to make certain that the answer you produce fits all the conditions of the problem. If you produced an answer to this problem and it was not correct, check to see if your answer fits all the conditions of the problem. Sometimes you may produce an incorrect answer because you ignore or misinterpret some condition or because you do not check whether your answer satisfies all the conditions stated in the problem.