Pumpkin Pie Problem

Peter, the pumpkin eater, wanted to make two pies for a party. His mother, a professional pie maker, had a recipe for him to use. However, she always made 80 pies at a time. She used:

10 dozen eggs

27 litres of condensed milk

480 tablespoons of sugar

100 teaspoons of cinnamon

140 cups of pumpkin

Peter looked in the cupboard and found:

4 cups of pumpkin

2 eggs

$1\frac{1}{2}$ teaspoons of cinnamon

$\frac{2}{3}$ of a litre of condensed milk

15 tablespoons of sugar

Did Peter have enough ingredients to make **two** pumpkin pies for the party or did he need to buy more?

How will you find out what you need to make two pumpkin pies? What would you need for ten pies?

Solutions

These are just some solutions, you may have found another with the same answer.

It looks like Peter is going to have to go shopping!

A way to think about this problem was to find out what proportion of the original recipe Peter required to make the two pies. You might have divided and then perhaps multiplied, depending on your strategy. Using what you know about fractions could have helped.

He hasn't got enough ingredients to make two pies.

One way is to present in a table, dividing the ingredients by 80 and multipliying by 2.

80 pies take	What he needs	What he has got
120 Eggs	3 eggs	2 eggs
27L Milk	0.675L Milk	0.66L Milk
480 tbs. Sugar	12 tbs. Sugar	15 tbs. Sugar
100 teasp. Cinnamon	2.5 teasp Cinnamon	1.5 teasp Cinnamon
140 cups of Pumpkin	3.5 cups of Pumpkin	4 cups of Pumpkin

Or did you divide mother's recipe by 40?

You might have done this:

To find out if Peter had enough to make 2 pies divide each of the ingredients by 40. For the 10 dozen eggs first multiply 10 by 12, because dozen means 12. Then divide the answer by 40.
10 X12 = 120.

120 / 40 = 12 / 4 = 3

Peter had 2 eggs but he needed 3 eggs so he had to buy 1 more egg.

To find out how many litres of condensed milk was needed, first convert the litres of condensed milk into millilitres. Then divide the answer by 40 again.
27litres X 1000 = 27,000ml

27,000ml / 40 = 675ml

Peter had 666ml but he needed 675ml so he needed to buy 9ml of condensed milk.

To find out how many tablespoons of sugar Peter needed divide the amount for 80 pies by 40.
480 ÷ 40 = 12 tablespoons of sugar.

Peter had 15 tablespoons of sugar so he had 3 more than needed.

To find out how many teaspoons of cinnamon, divide the original amount again by 40.
100÷ 40 = 10 ÷ 4 = 2.5 teaspoons of cinnamon.

Peter had 1.5 teaspoons of cinnamon, so he needed to buy 1 more teaspoon of cinnamon.

Finally, to find out how many cups of pumpkin were needed, divide 140 by 40.
140 ÷ 40 = 14 ÷ 4 = 3.5 cups of pumpkin.

Peter had 4 cups of pumpkin so he had 0.5 cups of pumpkin more than he needed.