



M2C3 Project

Pizza Party Task

Student Work

This file includes two grade three solutions and two grade 5 solutions to the pizza party task. Students used whole number arithmetic to determine how many boxes of pizza to buy for the party.

Factors that Students Considered

- How many pieces in one box of pizza?
- How many people would be eating pizza?
- How many slices would they eat?

Connections to Students' Experiences

- Students have eaten pizza with family and friends.
- Students know that boxes of pizza may come with different amounts of pizza.

3rd Grade

How many pizzas!

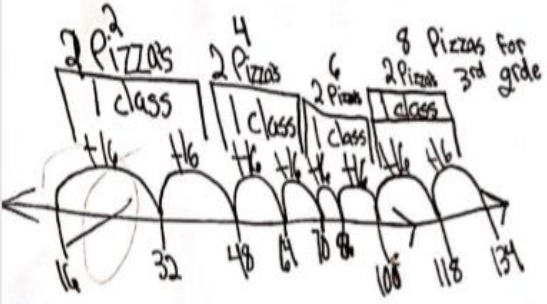
Assumptions

24 students per class
25 students per class
25 students in every class.

$$4 \times 25 = N \rightarrow N =$$

What we need to know
How many students
 $4 \times 25 = N$

What we know
How many students
 $4 \times 25 = 100$



8 pizzas for 3rd grade

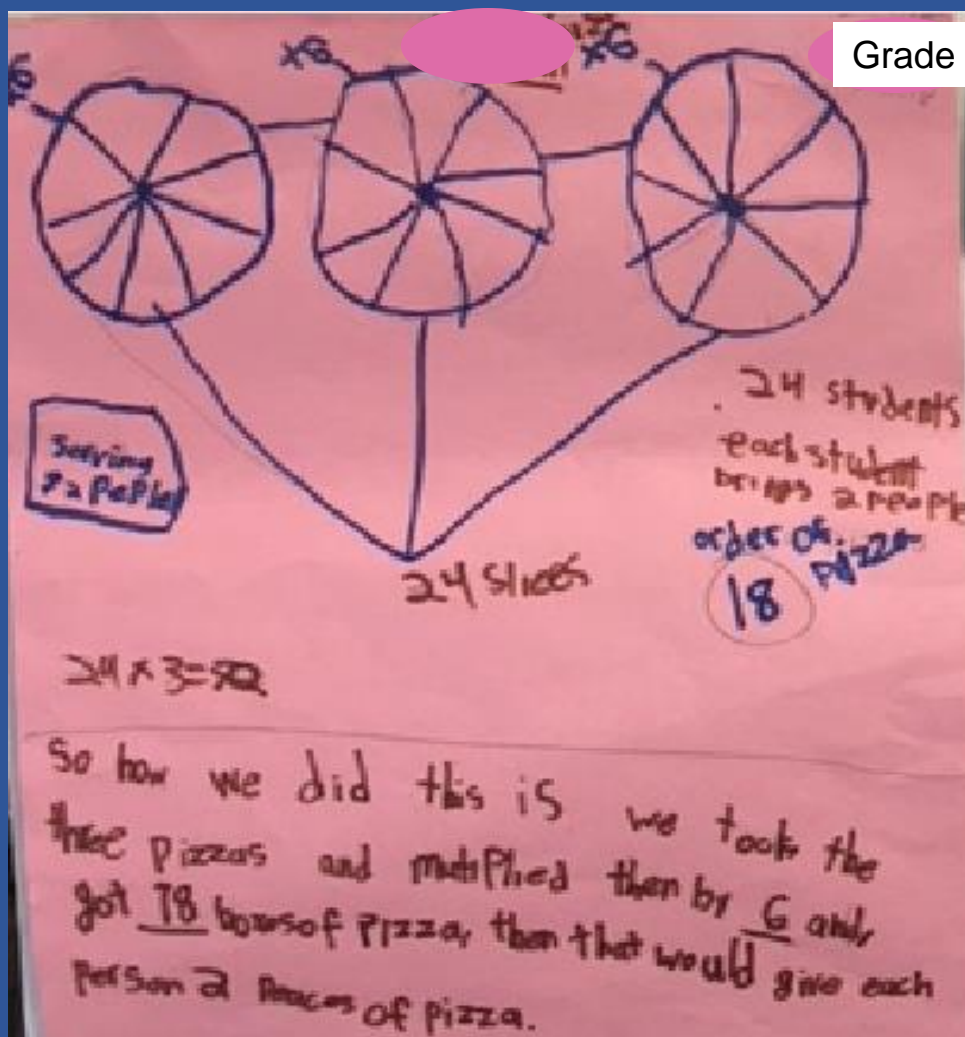
Left overs: 8

1 slice for each student
and for

There will not be
enough for
everybody to have

Students assumed there were four classes of 25 students each eating pizza. They state $4 \times 25 = N$ and under "What we Know" they show $4 \times 25 = 100$. It appears that each box of pizza has 16 slices and students used repeated addition on a number line to determine the number of slices of pizza they would have if each class gets two boxes. One common misconception seen here occurs when using the number line for repeated addition. The students start at 16, not 0. They do make a few errors when adding 16 and it is not clear how they determined left overs.

Grade 3



Students in this grade 3 class were allowed to bring 2 additional people to the party. Thus a class of 24 students could have as many as $24 \times 3 = 72$ people eating pizza. They found by drawing the pizzas that 3 pizzas with 8 slices each would give 24 slices. They wanted everyone to be able to have two slices each. Their explanation "So how we did this is we took the three pizzas and multiplied them by 6 and got 18 boxes of pizzas, then that would give each person 2 pieces of pizza." is difficult to follow because it is not clear where the "6" came from. It appears that they are multiplying each pizza by 6 in their drawing. $6 \times 8 = 48$ pieces. This could provide a hint into their thinking.

PIZZA TASK

there are 10 left overs

there are 19 students and each one will get 2 slices.

$$\begin{array}{r} \boxed{8} + \boxed{8} + \boxed{8} = 24 \\ \boxed{8} + \boxed{8} + \boxed{8} = 24 \\ \hline 48 \end{array}$$
$$\begin{array}{r} 48 \\ -38 \\ \hline 10 \end{array}$$
$$\begin{array}{r} 19 \\ +19 \\ \hline 38 \end{array}$$

Mrs. [redacted] will have to order 6 boxes of pizza



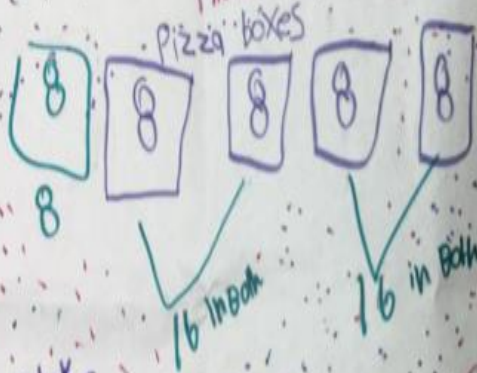
Grade 5

This grade five group used addition and subtraction to determine the number of boxes of pizza to order for the party. They wanted to give 19 students two slices of pizza each. Thus they would need 38 slices. They found that 3 boxes of pizza would provide 24 slices, so they doubled that amount and found 6 boxes would provide 48 slices. 6 boxes would allow them to meet their goal of two slices each with 10 slices left over. They did not notice that the 10 slices left over was more than one box of pizza.

39 Students/Both classes
1 Pizza per student

teachers will not get
a slice. smy

There will be other snacks



$$\begin{array}{r}
 +20 \text{ in our class} \\
 +19 \text{ in the other class} \\
 \hline
 39 \text{ in all}
 \end{array}$$

you may ask...
what kind of pizza... well



- 1/6 boxes/pizza added
- +1/6 boxes/pizza added
- 32 slices to gether
- + 8 boxes/pizza
- 340 all Pizza together
- 39 students
- 01 leftover

Answer
State ment
all students
will get one
Slice. TA'S
and teachers will
not get a slice.
one left over.
5 pizza boxes and 40
Pizza slices.



This 5th grade solution clearly shows that for two classes totaling 39 students, they would need 5 boxes of pizza made up of 8 slices each. The students would get one slice of pizza and the teachers and TA's would "not get a slice". There would be on slice left over.