**Main Problem #3**

Topic: *Fractions as Division*

Problem: Your friend Abigail is having a big Cuban wedding and she needs your help dividing the number of snacks for the big *boogaloo* reception party. As of now, she has 150 *tostones*, 175 *yuca fritas,* 200 *bocaditos*, 225 *croquetas*, and 250 *pastelitos*. She needs your help dividing the number of snacks for each table. She warns you that not all tables have the same number of seats, meaning some tables will receive more snacks than others.

According to the seating chart, there are 4 tables with 10 seats, 5 tables with 9 seats, 7 tables with 5 seats, and 10 tables with 3 seats.

Q1. How many people are attending the reception party?

Q2. Using prime factorization, determine how much of each snack each person would eat. Express answers as mixed numbers.

\*\*Note: This “Main Problem” exercise is short because it does not introduce any new material aside from knowing that you can express division problems as fraction problems. However, the second question would require a lot of time since students will have to apply their knowledge of prime factorization to factor out a big number like 250.

A1. This is a warm-up problem designed to review a student’s knowledge of multiplication. The student would have to multiply the number of tables by the number of seats each unique table holds. Therefore, $(4⋅10)+(5⋅9)+(7⋅5)+(10⋅3)=150$people will be attending the reception party.

A2. For this question, students will apply their knowledge of prime factorization to help them divide the large number of snacks. The formula is:

$$(number of x snack)÷(number of guests). $$

* Tostones: $150÷150=\frac{150}{150}=1$
* Yuca Fritas: $175÷150=\frac{175}{150}=\frac{5\*5\*7}{5\*5\*2\*3}=\frac{7}{6}=1\frac{1}{6}$
* Bocaditos: $200÷150=\frac{200}{150}=\frac{5\*5\*2\*2\*2}{5\*5\*2\*3}=\frac{4}{3}=1\frac{1}{3}$
* Croquetas:$225÷150=\frac{225}{150}=\frac{5\*5\*3\*3}{5\*5\*2\*3}=\frac{3}{2}=1\frac{1}{2}$
* Pastelitos: $250÷150=\frac{250}{150}=\frac{5\*5\*5\*2}{5\*5\*2\*3}=\frac{10}{6}=1\frac{4}{6}=1\frac{2}{3}$