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Error Analysis #3

- ❖ What has the student done well and/or what makes sense about the student's thinking, even if it is incorrect or incomplete?

The student knows the concept of 'division is repeated subtraction' and 'multiplication is repeated addition.' The students also know what a pattern is because she divided, multiplied, divided and multiplied. Maybe if the student was given one more problem she would have divided. The answers for the multiplication problems are also all correct.

- ❖ What error has the student made? What are the big mathematical concepts underlying this error?

The student does not correctly differentiate between a multiplication symbol and a division symbol. Without knowing what the symbols are, the student cannot differentiate and understand what the problem is asking him/her.

- ❖ What is one assessing question you could use to learn more about the student's thinking?

One assessing question I could ask to learn more about the students thinking is:

"How do you know this is a division problem and not a multiplication problem?"

By asking this question to the student, I would assess what is confusing the student.

- ❖ What manipulatives, representations or other interventions could you use to draw the student's attention to the underlying concept?

I would maybe split the whiteboard in half. On one side I will have strictly multiplication problems and on the other I will have strictly division problems. I will write out the symbol and the name of the symbol at the top (\times Multiplication) and (\div Division). I will invite the student to solve a few problems on the multiplication side by making a connection to repeated addition and then they may do it on the other side using repeated subtraction. This will allow the student to solve the two different sets of problems hands on and see that they hold different symbols.

- ❖ What is one advancing question you could use to help the student move forward without giving away the answer?

One advancing question I would ask to help the student move forward without giving away the answer will be, “What is the first step in this problem?” This will give them the opportunity to think of the very first thing they have to do, which is look at what type of problem they should be solving for.