What to do when a zero is in the Quotient:

Sometimes when you divide you will need to show that there is nothing in a place in the quotient. Pay close attention to place values, this is where most of our mistakes happen. If you estimate the quotient before dividing this may help fix this common mistake and you will not forget a zero in an answer.

Example: The total production in a henhouse on a particular day was 1,316 eggs. How many dozen of eggs will the farmer need to carton before bringing the eggs to Giant Eagle? (Remember a dozen eggs is equal to 12 eggs)

To solve this question you will need to divide the number of eggs by 12.

Follow these steps:

1. Start by dividing 1,000 by 12. Remember you can estimate. What is 12 x 1,000? Answer: 12,000. This tells you that nothing will go into the 1,000s place value because you only have 1,316 eggs.

2. Divide the 100's: 1300 ÷ 12 =? Estimate to help you decide how many times 12 will go into 1,300. Since 12 x 100 is equal to 1,200 and 12 x 200 is 2,400, you know that a one will be in the hundreds place value. You also know that the **quotient will be between 100 and 200.**

3. Divide, subtract and compare. 1,316 – 1,200 = 116 tells you that after you package 100 dozen eggs you will still have 116 eggs left to package into cartons.

4. Can 12 go into 11? The answer is no, therefore a zero needs to be placed in the tens place.

5. Divide the ones. 116 ÷ 12 =? Estimate to help you decide. 12 x 9 is 108, because this is true 12 will go into 116 **9 times** and you will have 8 eggs left over. 116 – 108 = 8. The remainder is how many eggs are left.

The answer to our question is 109 cartons of eggs with 8 eggs left over.