January 14, 2008

Dear Parents and Guardians,

As you know, we are currently working on division in math. We follow our Everyday Math series which teaches the partial quotients algorithm, or method, of division. We realize that this way of teaching is very different from the traditional method.

Attached is a parent sheet on partial quotients for your reference. Your child should also be able to show you how it works. Studies show that one of the best ways to learn a skill is to teach someone else. Feel free to ask your child to teach you about partial quotients.

Please contact me if you have any questions about this.

Mathematically,

Mrs. Pierce

Mrs. Pierce

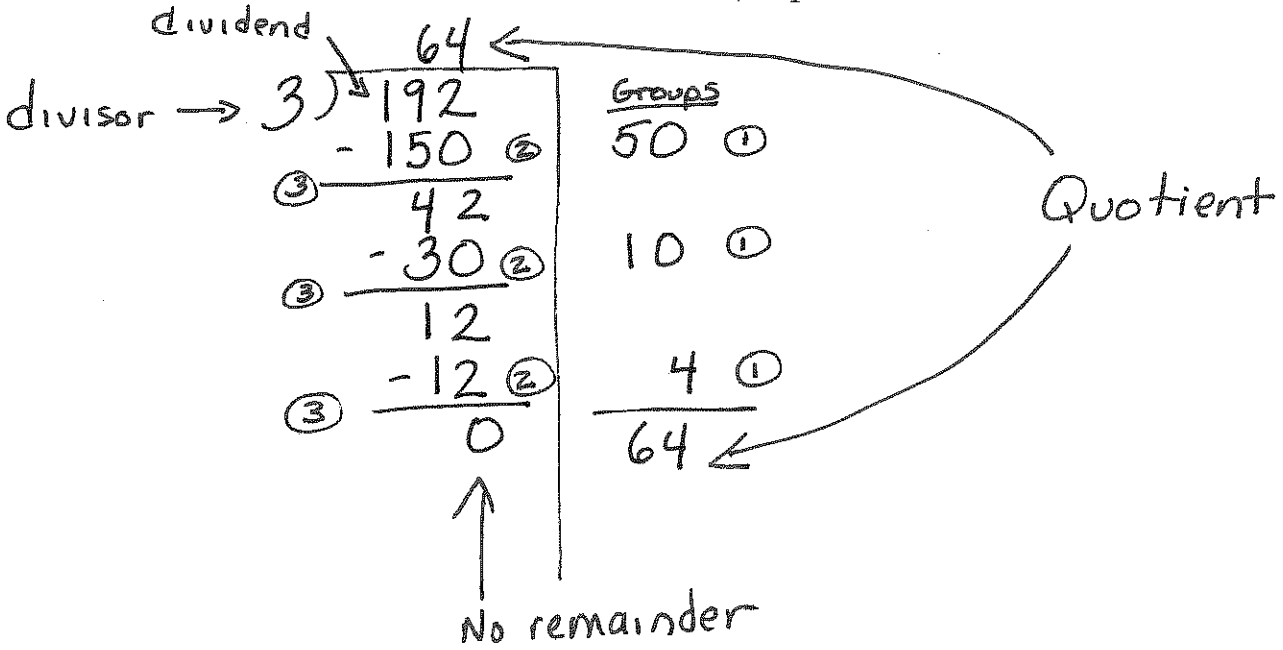
Steps for Division

① 1) Find the factor and write it on the right side in the "groups".

② 2) Write product under the dividend.

③ 3) Subtract.

- IF answer is less than the divisor, you are finished and the answer is the remainder
- If answer if more than the divisor, repeat 1-3



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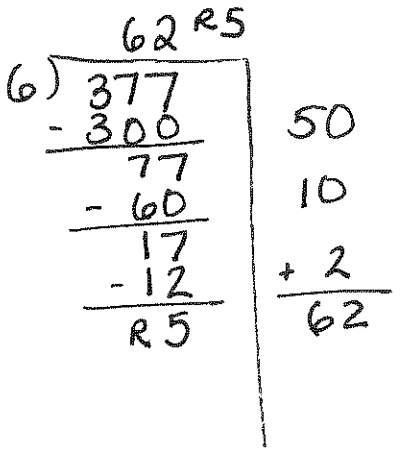

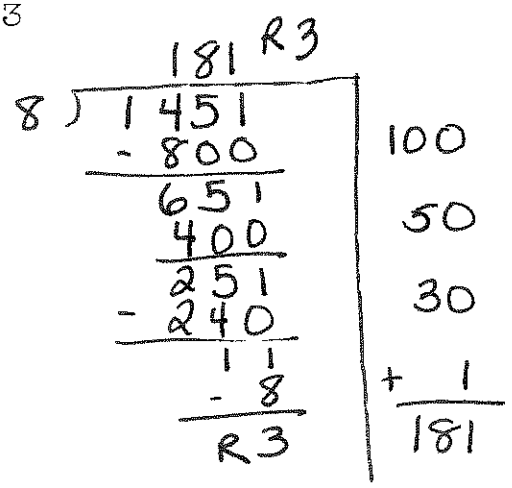

Division Algorithms

One type of division situation involves making as many equal-size groups as possible from a collection of objects: How many dozens can you make with 746 eggs? How many 5-passenger cars are needed for 37 people? Such problems ask, "How many of these are in that?" More generally, $a \div b$ can be interpreted as "How many bs are in a?" This idea forms the basis for the division algorithms presented in this section.

Partial-Quotients

The partial-quotients algorithm uses a series of "at least, but less than" estimates of how many bs are in a.

Example: Partial-Quotients

Estimate the number of 12s in 158.

You might begin with multiples of 10 because they are simple to work with. There are at least ten 12s in 158 ($10 \times 12 = 120$), but there are fewer than twenty ($20 \times 12 = 240$). Record 10 as a first guess, and subtract ten 12s from 158, leaving 38.

Now estimate the number of 12s in 38.

There are more than three ($3 \times 12 = 36$) but fewer than four ($4 \times 12 = 48$). Record 3 as the next guess, and subtract three 12s from 38, leaving 2.

Since 2 is less than 12, you can stop estimating. The final result is the sum of the guesses ($10 + 3 = 13$) plus what is left over (the remainder of 2).

12)158	10	first guess
120		
38	3	second guess
36		
2	13	sum of guesses

158 ÷ 12 → 13 R2