

# What in the world *is* this?

## Parent Guide to Partial Quotients Method of Division

The partial quotients method is different from the way you and I learned to divide, but in most cases, it's easier for today's students to learn, and helps them to understand the deeper meaning behind what they are actually doing when dividing. Follow this guided example, and you'll have it in no time!

**Step 1:** Think, *what can I multiply 7 by to get close to 454 without going over?* (If the dividend is large, I always tell students to start with  $\times 100$ ,  $\times 50$ , or  $\times 25$  first, since those are easy and often get them pretty close). In this case, we will use  $7 \times 50 = 350$ .

**Step 2:** Multiply  $7 \times 50$ , and get 350. Write 350 underneath your dividend (just like you would do in long division), and write 50 next to it on the outside of the division box. Be sure to line up your numbers in the correct places for accurate subtraction.

**Step 3:** Subtract  $454 - 350$ . Write your answer underneath, just like in long division. The answer will be your new dividend.

**Step 4:** Think, *what can I multiply 7 by to get close to 104 without going over?* Let's say the largest 7 multiplication fact you know is  $7 \times 10$ . That's fine! You can use whatever facts you know, as long as your answer isn't larger than your dividend. Let's use  $7 \times 10 = 70$ .

**Step 5:** Multiply  $7 \times 10$  and get 70. Write 70 underneath your dividend (just like you would do in long division), and write 10 next to it on the outside of the division box. Be sure you line up your numbers in the correct places for accurate subtraction.

**Step 6:** Subtract  $104 - 70$ . Write your answer underneath, just like in long division. The answer will be your new dividend.

**Step 7:** Think, *what can I multiply 7 by to get close to 34 without going over?* Students should remember that  $7 \times 4 = 28$ , so we'll use that one.

**Step 8:** Multiply  $7 \times 4$  and get 28. Write 28 underneath your dividend (just like you would do in long division), and write the 4 next to it on the outside of the division box. Be sure you line up your numbers in the correct places for accurate subtraction.

**Step 9:** Subtract  $34 - 28$ . Write your answer underneath, just like in long division.

**Step 10:** Think, *is there anything I can multiply 7 by to get close to 6 without going over?* **If the answer is NO, then 6 is your remainder.**

**Step 11:** Now it's time to figure out the quotient (answer) to our division problem. To do this, we need to add up the numbers on the outside of our division box (**our PARTIAL QUOTIENTS**) to get our quotient. Let's add  $50 + 10 + 4$ . That gives us 64, so **64 is our quotient, and 6 is our remainder.**

**Steps 1 & 2**

$$\begin{array}{r|l} 7 & 454 \\ - & 350 & 50 \\ \hline & & \end{array}$$

**Step 3**

$$\begin{array}{r|l} 7 & 454 \\ - & 350 & 50 \\ \hline & 104 & \end{array}$$

**Steps 4 and 5**

$$\begin{array}{r|l} 7 & 454 \\ - & 350 & 50 \\ \hline & 104 & \\ - & 70 & 10 \\ \hline & & \end{array}$$

**Steps 6, 7, 8**

$$\begin{array}{r|l} 7 & 454 \\ - & 350 & 50 \\ \hline & 104 & \\ - & 70 & 10 \\ \hline & 34 & \\ - & 28 & 4 \\ \hline & & \end{array}$$

**Steps 9-11**

**64 r6**

$$\begin{array}{r|l} 7 & 454 \\ - & 350 & 50 \\ \hline & 104 & \\ - & 70 & 10 \\ \hline & 34 & \\ - & 28 & + 4 \\ \hline & 6 & 64 \\ \hline \end{array}$$

↑
↑  
 remainder                  quotient

**DIVISION VOCABULARY**

**Dividend** - # you are dividing

**Divisor** - # you are dividing by

**Quotient** - answer to a division problem