Partial Quotients vs. Long Division

Let's do long division first. I set up the long division and make my seats. It would also be helpful if I listed the multiples of 8. I've listed 10 multiples of 8. 8 does not go into 6. How many times does 8 go into 67? Let's look at our multiples. We are looking for the multiple that is closest to 67 without going over. 8 goes into 67 8 times. 8 x 8 = 64. I subtract. 67 – 64 = 3. I bring down the 2. Now I divide. 8 goes into 32 4 times. 4 x 8 = 32. I subtract and get 0. I have nothing else to bring down. The quotient is 84. Now let's try partial quotients. Let's repeatedly subtract 80. 672 – 80 = 592. 592 – 80 = 512. 512 – 80 = 432. 432 – 80 = 352. 352 – 80 = 272. 272 – 80 = 192. 192 – 80 = 112. 112 – 80 = 32. Now I can divide 32 by 8. 32 is a multiple of 8. 32 divided by 8 is 4. 10, 20, 30, 40, 50, 60, 70, 80. 80 + 4 is 84. On the left side we have long division, and on the right side we have partial quotients. Each method led us to the same quotient of 84, but there are differences to the methods. The main difference is that with partial quotients, you get a better picture of what is happening as you divide – you are repeatedly subtracting the divisor to see how many times it fits into the dividend. Long division has more steps to remember – divide, multiply, subtract, bring down – but it is faster than partial quotients, and it is easier to stay neat and organized.