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Use Partial Quotients to Solve Long Division Problems

With partial quotients, we can use **simple** multiples to solve division problems! In the problem below, multiples of 100, 10, and 2 were used to solve the problem.

4 | 4 4 8			
Subtract each time	- 4 0 0	100	4 X 100 = 400
	4 8		
	- 4 0	10	4 X 10 = 40
	8		
	- 8	+ 2	4 X 2 = 8
	0	112	Add them all

Answer = 112

In the example below, I decided to multiply 17 (the divisor) by multiples of 2 (since I know that 17 X 2 = 34). With partial quotients, you can choose to multiply your divisor by any number (before you subtract) as long as you keep track in the column on the right! Any amount less than 17 that's leftover becomes the remainder.

17	448	
	-340	20
	108	
	-34	2
	74	
	-34	2
	40	
	-34	2
	6	+ 0
		26 R 6

Answer = 26 remainder 6

Try one yourself!

$$16 \overline{)\,8\;3\;3}$$

Answer = 52 remainder 1