

6 times remainder = divisor.

$\therefore 43$ times remainder = 516 ;

$$\therefore \text{remainder} = \frac{516}{43} = 12.$$

$\therefore \text{Dividend} = 12 + 72 \times 432 = 31116.$

Highest Common Factor.

Examples (xxiv). Page 46.

The following rule will be found much easier in practice than the one given in the text book.

Divide all the given numbers by the least of them, and bring down the remainders.

2. Divide the first divisor and all of the first remainders by the least of them, and bring down the remainders.

3. Proceed in this manner until a remainder is found that will divide all the other remainders, and the divisor last used, and this will be the highest common factor required.

3.	365,	511,	803.
	365,	146,	73.

We divide by 365, writing down the remainders 146 and 73. 73 will divide the first divisor, 365, and the other remainders, and is therefore the H. C. F.

4.	232,	290,	493.	
	232,	58,	29.	H. C. F. is 29.

5.	492,	1476	1763.	
	492,	0	287.	
	205,		287.	
	205,		82.	
	41,		82.	H. C. F. is 41.