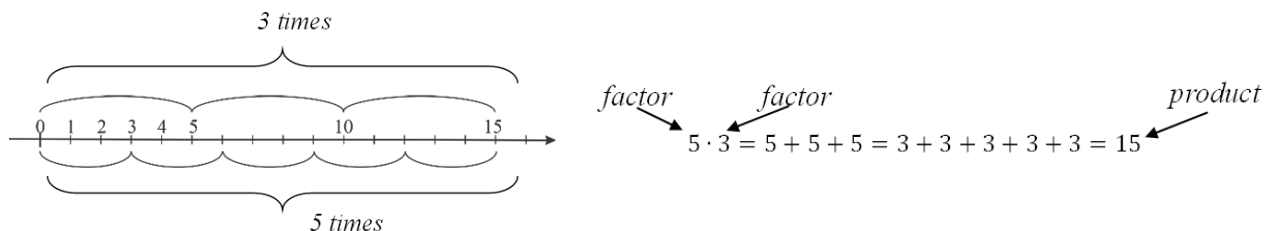


Math 4. Division with a remainder. Factorization.

Classwork:

If there is a number c , that $c \times b = a$, then we can say that $a \div b = c$. This means that a is divisible by b , and b can be “fit” into a a whole number of times. c is also a factor of a , $a \div c = b$. For example,

$$3 \times 5 = 15; \quad 15 \div 3 = 5, \quad 15 \div 5 = 3$$



5 can fit into 15 exactly 3 times, 3 can go into 15 exactly 5 times.
15 is divisible by 3 and by 5.

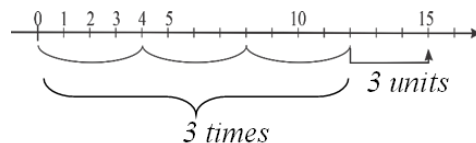
If there is no number such that the divisor enters the dividend several times, then we can say that this number is not divisible by the divisor. In such cases, we can use division with a remainder.

For example, consider $15 \div 4$. 4 can't fully complete 15. It can fit into 12 three times, but there will be a little more left over. So,

$$15 \div 4 = 3 \text{ with a remainder of } 3$$

$$15:4 = 3R(3), \text{ or}$$

$$15 = 4 \times 3 + 3$$



Homework:

Please do all the calculations carefully, step by step on a separate sheet of paper. Do not use this page for the answers.

- Factorize (represent as a product of two or more factors, do not use 1 as a factor). Write one or more possible solutions:

Example: $35 = 3 \cdot 7$; $100 = 4 \cdot 5 \cdot 5$;

36 ; 100 ; 125 ; 178 ; 200 .

- Do the division with a remainder, write your answer in a form $a:b=cR(r)$.

Examples:

$$25:4 = 6R(1); \quad 28:7 = 4R(0)$$

a) $86 \div 9$

b) $87 \div 7$

c) $122 \div 11$

d) $288 \div 9$

3. Calculate:

a. $3 \cdot 5 \cdot 2 \cdot 7$;

b. $5 \cdot 5 \cdot 6 \cdot 4$;

c. $7 \cdot 2 \cdot 5 \cdot 2 \cdot 5$

d. $2 \cdot 9 \cdot 5 \cdot 5 \cdot 4$;

e. $8 \cdot 4 \cdot 125 \cdot$

c. $5 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 5 \cdot 5 \cdot 5 \cdot 6$;

4. Fill the empty boxes in the table (draw the table in your notebook):

<i>a</i>	9	24	24		77		0	75
<i>b</i>	5	6		12		72	25	1
<i>a · b</i>			168	96				
<i>a : b</i>					7	9		