Math 4e. Homework 4.

1. Do the prime factorization (decomposition) of the numbers: 66, 28, 128, 555.

2. Find GCF using prime decomposition:
   $a.\ GCF(75, 135);$ $b.\ GCF(180,210);$ $c.\ GCF(125, 462);$

3. Find the LCM using the prime decomposition:
   $a.\ LCM(28, 35);$ $b.\ LCM(16, 56);$ $c.\ LCM(21, 100);$ $d.\ LCM(18, 62);$

4. Mary wrote down a sequence of multiples of a certain number, starting with the smallest one. The twelfth number in this sequence is 60. Find the first, sixth, and twentieth numbers?

5. How many multiples of 9 among first 100 (natural) numbers?

6. Is number a divisible by number b? if yes, find the quotient.

   $a.\ a = 2 \cdot 2 \cdot 3 \cdot 7 \cdot 7,$ $b = 2 \cdot 2 \cdot 11$

   $b.\ a = 2 \cdot 3 \cdot 5 \cdot 13,$ $b = 5 \cdot 13$

   $c.\ a = 3 \cdot 5 \cdot 5 \cdot 11 \cdot 17,$ $b = 3 \cdot 5 \cdot 17$

   $d.\ a = 2 \cdot 2 \cdot 3 \cdot 3 \cdot 5 \cdot 19 \cdot 23,$ $b = 2 \cdot 2 \cdot 3 \cdot 5$

   $e.\ a = 2 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 5 \cdot 11 \cdot 13,$ $b = 405$

   $f.\ a = 2 \cdot 3 \cdot 7 \cdot 11 \cdot 13 \cdot 29,$ $b = 2002$

7. The Johnson family bought tomatoes, cucumbers, and onions on the farm, 18 kg altogether. How many kilograms of each vegetable did they buy if cucumbers were four times as much as onions, and tomatoes were as much as cucumbers?

8. Find missing digits in the problems:

$$\begin{array}{r} 35\square 78 \\ +\,4\square 596 \\ \hline 894\square 5 \end{array} \qquad \begin{array}{r} 5\square 728 \\ +\ 7045 \\ \hline 83\square 50 \\ 821\square\square \\ \hline 227165 \end{array}$$

9. Rebecca wants to decorate the box for her friend Alice's birthday present with a ribbon, as shown in the picture. How long should the ribbon be if she wants to leave 90 cm for the ends and the bow?

10. On a graph paper , draw a square with a side equal to 5 grid cells and a rectangle with sides 3 and 7 grid cells. Use ruler!