

Homework 4.



1. Do the prime decomposition of the numbers: 75, 100, 555, 1233.
2. Find GCF using prime decomposition:
a. GCF(75, 135); b. GCF(180, 210); c. GCF(125, 462);
d. GCF(504, 270); e. GCF(117, 195, 312); f. GCF(306, 340, 850);

Example:

*CGCF(240, 336, 424). Common factors for all 3 numbers are 2, 2, 2,
GCF(240, 336, 424) is $8 = 2 \cdot 2 \cdot 2$*

240	2	424	2	336	2
120	2	212	2	168	2
60	2	106	2	84	2
30	2	53	53	42	2
15	3	1		21	3
5	5			7	7
1				1	

3. Mary wrote down a sequence of multiples of a certain number, starting with the smallest one. Twelfth number in this sequence is 60. Find the first, sixth, and twentieth numbers?
4. Find the LCM using the prime decomposition:
a. LCM(28, 35); b. LCM(16, 56); c. LCM(21, 100);
d. LCM(18, 62); e. LCM(264, 300); f. LCM(360, 1020);
g. LCM(72, 90, 96); h. LCM(58, 87, 435);

5. There are less than 100 apples in a box. They can be evenly divided between 2, 3, 4, 5, and 6 kids. How many apples are there in the box?



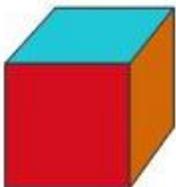
6. Fill in the table. Find a pattern. What can you say about GCF, LCM and a product of two numbers

Numbers	Product	GCD(GCF)	LCM
4 and 6	24	2	12
6 and 9			
5 and 7			
35 and 45			
16 and 18			
735 and 845	$735 \cdot 845$		

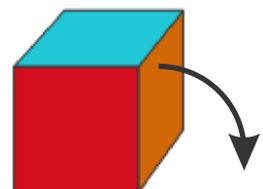
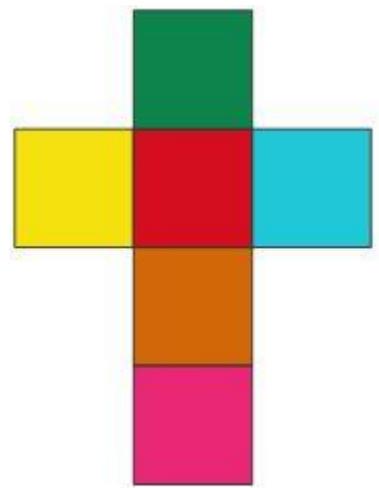
Can you explain what you noticed?

7. For numbers greater than 3, can you define, prime or composite number is a
- Number, following a prime number
 - Number, following a composite number
 - Number, preceding a prime number
 - Number, preceding a composite number
 - Sum of two prime numbers
 - Sum of two composite numbers

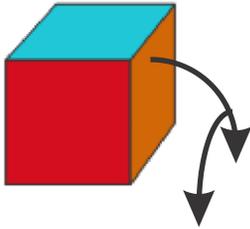
8. On a picture on the right there is a surface of a cub. What do you think about the color of bottom side of this cub?



If you turn this cube one following the arrow, what color of the upper side will be?



If you turn this cube one more time following the second arrow, what color of the upper side will be?



9. There are 4 children in the family. They are 5, 8, 13, and 15 years old and their names are Julia, Peter, Mary and Ellen. What is the age of each of them if one of the girls goes to kindergarten, Julia is older than Peter, and sum of ages of Julia and Mary is divisible by 3?

10. Find a pattern and continue the pictures below:

