Math 4d, Homework 8.

1. Do the prime factorization of the numbers
   396, 315, 539.
   Example: $945 = 3 \cdot 3 \cdot 3 \cdot 5 \cdot 7$

2. Julia's father's step is 70 cm long, Julia's step is 20 cm smaller. They start walking making their first step simultaneously. How far they should go to have next simultaneous step?

3. Evaluate:
   $a.\ \frac{1}{3}+\frac{1}{4};$ $b.\ \frac{2}{7}+\frac{3}{14};$ $c.\ \frac{7}{8}-\frac{5}{8};$

   $d.\ \frac{1}{2}+\frac{5}{6};$ $e.\ \frac{7}{24}+\frac{1}{4};$ $f.\ \frac{5}{6}+\frac{3}{10}$

4.
   a. What is bigger, the number *c* or $\frac{2}{3}$ of the number *c*? Why?
   b. What is bigger, the number *b* or $\frac{3}{2}$ of the number *b*? Why?
   c. What is bigger, $\frac{2}{3}$ of a number *m* or $\frac{3}{2}$ of a number *m*? Why?

4.
   a. $\frac{1}{7}$ of all students in the class is 4. How many students are there in the class?
   b. $\frac{2}{5}$ of all students in a class is 10. How many students are there in a class?

5. In the school cafeteria there are 12 tables. There are 10 seats at each table. At the lunch time $\frac{4}{5}$ of all sits were occupied by students. How many students were in the cafeteria?

6. Compute by the most convenient way:

$$\left(\frac{1}{2}+\frac{1}{3}+\frac{1}{4}+\frac{1}{5}\right)+\left(\frac{2}{3}+\frac{2}{4}+\frac{2}{5}\right)+\left(\frac{3}{4}+\frac{3}{5}\right)+\frac{4}{5}.$$

7. Peter spent 2 hours doing his homework. $\frac{1}{3}$ of this time, he spent doing his math homework and $\frac{1}{4}$ of the remaining time he spent on the history assignment. How many minutes did Peter spent on his history assignment and how many minutes did he spent doing his math homework?

8. Write the expression for the following problems:
   a. 3 packages of cookies cost *a* dollars. How many dollars do 5 of the same packages cost?
   b. 5 bottles of juice cost *b* dollars. How many bottles can one buy with *c* dollars?

9. Fill up the empty places for the equality to hold (distributive property)

a. $10 + \square \cdot x = 5 \cdot (\square + x)$

b. $20a + \square = \square \cdot (4a + 1)$

c. $320a + 250b = \square \cdot (32a + \square)$

d. $ab + bc = \square \cdot (a + \square)$

10. Copy the figure: