

Math 4a. Homework 5.

1. 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?

2. 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?

3. Compute:

1)  $\frac{1}{8} + \frac{3}{7}$        $\frac{4}{5} + \frac{1}{3}$        $\frac{2}{3} + \frac{2}{5}$        $\frac{3}{10} + \frac{1}{9}$

2)  $\frac{1}{2} + \frac{5}{6}$        $\frac{4}{15} + \frac{2}{5}$        $\frac{7}{24} + \frac{1}{4}$        $\frac{5}{6} + \frac{2}{3}$

3)  $\frac{3}{8} + \frac{3}{20}$        $\frac{9}{8} + \frac{1}{6}$        $\frac{8}{15} + \frac{4}{9}$        $\frac{5}{6} + \frac{3}{10}$

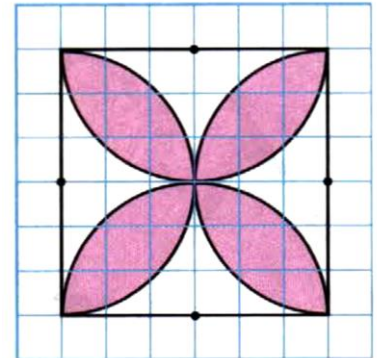
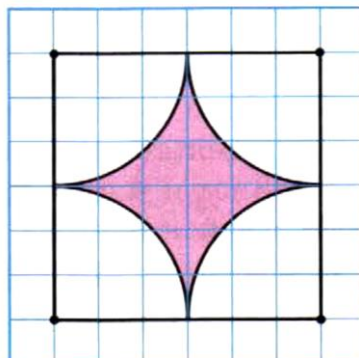
4. Compute by the most convenient way:

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

5. Solve the problem:

25 identical thick books or 45 identical thin books can fit on a bookshelf. Will there be enough space on a bookshelf for 20 thick and 9 thin books?

6. Copy these two pictures to your notebook. Use a compass and a ruler.



7. Wooden cube painted red is cut into 27 identical smaller cubes by making two cuts parallel to each of the three pairs of cube's faces (similar to Rubik's cube).

How many small cubes will have three faces painted?

How many small cubes will have two faces painted?

How many small cubes will have one face painted?

How many small cubes will not have painted faces at all?

8.

a. There are 100 fourth graders in an elementary school.  $\frac{3}{4}$  of them went to the field trip. How many students went to the field trip?

b. There are 100 fourth graders in an elementary school. 20 students took part in a math competition. What part of the students participated in the math competition?

c. 60 fourth graders like the "Harry Potter" movie. This is  $\frac{3}{5}$  of the number of students in the 4<sup>th</sup> grade. How many students are there in the 4<sup>th</sup> grade?

9. Knives are sold 10 to a package, forks are sold 12 to a package, and spoons are sold 15 to a package. If you want to have the same number of each item for a party, what is the least number of packages of each you need to buy?

10. Using the distributive property ( $a \cdot (b + c) = a \cdot b + a \cdot c$ ) write the following expressions without parenthesis:

$$3(x - 5) =$$

$$(4 - 2a) \cdot 2 =$$

$$\frac{1}{2} \cdot (2 + b) =$$