Homework 8.

1. Evaluate:

$$a.\ \frac{1 - \frac{1}{6}}{2 + \frac{1}{6}};\qquad b.\ \frac{\frac{1}{2} + \frac{3}{4}}{\frac{1}{2}};\qquad c.\ \frac{\frac{7}{10} + \frac{1}{3}}{\frac{7}{10} + \frac{1}{2}};$$

2. Write the expressions as fractions and evaluate:
   Example:
   $$60: 2: 4 = \frac{60}{2}: 4 = \frac{60}{2 \cdot 4} = \frac{15 \cdot 4}{2 \cdot 4} = \frac{15}{2} = 7\frac{1}{2}$$

   $a.\ \ 14: 42;\qquad b.\ \ 2: 3: 5;\qquad c.\ \ 2: 8 \cdot 3;\qquad d.\ \ 100 \cdot 6: 40;\qquad e.\ \ 5: 15 \cdot 3$

   $f.\ \ (21 \cdot 18): 14;\qquad g.\ \ 50: (16 \cdot 25);\qquad h.\ \ (12 \cdot 15): 40;\qquad i.\ \ (4 \cdot 24): (2 \cdot 8)$

3. To do his homework, Peter needs to write an essay and solve math problems. He spent $\frac{1}{2}$ hours doing his homework. However, the time he spent writing an essay was $\frac{1}{10}$ hours less than the time he spent solving math problems. How much time did he dedicate to working on math problems?

4. Julia and Mary ate all the Halloween candy. Mary claimed that she ate $\frac{2}{3}$ of the candies, and Julia said that she ate $\frac{3}{5}$. Their parents think that something is wrong. Are they right?

5. What number x can be substituted with so that the fraction $\frac{x}{12}$ will be a nonreducible propre fraction?

6. From 42 m of fabric, 10 identical duvet covers were sewn, and from 33 m - 15 identical sheets. How much fabric is needed for a set that includes 1 sheet and 1 duvet cover?

7. Mary's 10 steps are 9 meters, while Julia's 20 steps are 17 meters. Who's step is longer?