MATH 4: Homework 6

Due November 4, before the start of the class

Homework must be submitted on time—at least 15 minutes before the start of the class.
Homework will not be graded after the solutions are posted on Google Classroom.

Write the answers on separate sheets of paper, not between the lines.

1. Draw a number line with a unit segment equal to 12 cells and mark the fractions:
$$\frac{1}{4}; \frac{1}{3}; \frac{1}{2}; \frac{2}{3}; \frac{3}{4}; \frac{2}{2}; \frac{5}{4}; \frac{5}{3}.$$

2. Simplify (reduce) fractions:

   Example: $\frac{7}{21} = \frac{1 \cdot 7}{3 \cdot 7} = \frac{1}{3}$

$$\frac{6}{10}; \quad \frac{15}{25}; \quad \frac{36}{48}; \quad \frac{35}{49}; \quad \frac{27}{81};$$

3. Compare (use the rules to compare fractions):

$a.\ \frac{11}{13}\ and\ \frac{12}{13};$ $b.\ \frac{5}{7}\ and\ \frac{7}{8};$ $c.\ \frac{3}{10}\ and\ \frac{2}{15};$

$d.\ \frac{1}{5}\ and\ \frac{5}{1};$ $e.\ \frac{4}{12}\ and\ \frac{3}{4};$ $f.\ \frac{2}{11}\ and\ \frac{1}{12};$

4. Evaluate:

$a.\ \frac{3}{4}+\frac{5}{7};$ $b.\ \frac{7}{8}+\frac{7}{12};$ $c.\ \frac{2}{15}+\frac{18}{27}$

$d.\ \frac{3}{5}-\frac{2}{7};$ $e.\ \frac{2}{11}-\frac{6}{33};$ $f.\ \frac{3}{26}-\frac{3}{52}$

5. Finding a part of a whole
   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?

6. The kilogram of cookies costs 15 dollars. How much did Mary pay for $\frac{4}{5}$ of the kilogram of the cookies.

7. There are 48 pencils of each color: blue, yellow, and green pencils, 72 red pencils, and 120 coloring pictures. How many identical coloring sets can be created out of these pencils and pictures?

8. Find LCM for numbers *a* and *b* presented with their prime factors:

   a) $a = 2 \cdot 3 \cdot 3 \cdot 3 \cdot 5 \cdot 11, \quad b = 2 \cdot 2 \cdot 3 \cdot 5 \cdot 7 \cdot 13$

   b) $a = 2 \cdot 2 \cdot 5 \cdot 5 \cdot 7 \cdot 31, \quad b = 2 \cdot 2 \cdot 3 \cdot 5 \cdot 5 \cdot 5 \cdot 31$

   c) $a = 3 \cdot 7 \cdot 7 \cdot 19, \quad b = 2 \cdot 5 \cdot 5 \cdot 11 \cdot 19$