MATH 4: Homework 8
Due November 18, 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. Find the unknown number of students:
   (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?
   (c) 56 tickets were sold for the game, and 24 seats remained unoccupied. What fraction of the seats are occupied by students?

2. An apple worm was eating an apple. On the first day, it ate half of the apple, on the second day it ate half of the rest, and on the third day it ate half of the rest again. On the fourth day it ate all the leftovers. What part of the apple did it eat on the fourth day?

3. 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 spend on his history assignment, and how many minutes did he spend doing his math homework?

4. Half of the students in the class participated in a spelling bee competition. One-third of them became winners. How many students are in the class if there are 5 winners of the spelling bee in the class?

5. A melon weighs 7 pounds, and a watermelon is $1\frac{1}{5}$ times heavier. By how many pounds is a watermelon heavier than a melon?

6. Write the expressions as fractions and evaluate
   (a) $100 \cdot 6 : 40$;   (b) $5 : 15 \cdot 3$;   (c) $(12 \cdot 15) : 40$;   (d) $(4 \cdot 24) : (2 \cdot 8)$

7. Evaluate the fractions by first simplifying the expressions in the numerator and the denominator. Then use the property that the fraction line is a division.

(a) $\dfrac{\frac{1}{2}+\frac{3}{4}}{\frac{1}{2}}$;

(b) $\dfrac{\frac{7}{10}+\frac{1}{3}}{\frac{7}{10}+\frac{1}{2}}$;

(c) $1 - \dfrac{1}{1+\frac{1}{2}}$;

8. In a garden, red, yellow, and white rose bushes are planted in rows. The red roses are planted every 8 meters, yellow roses every 12 meters, and white roses every 15 meters. The rows continue until all three types of bushes match as in the beginning. How long are the rows, and how many red, yellow, and white roses are planted in each of the three rows?

8 m.

12 m.

15 m.
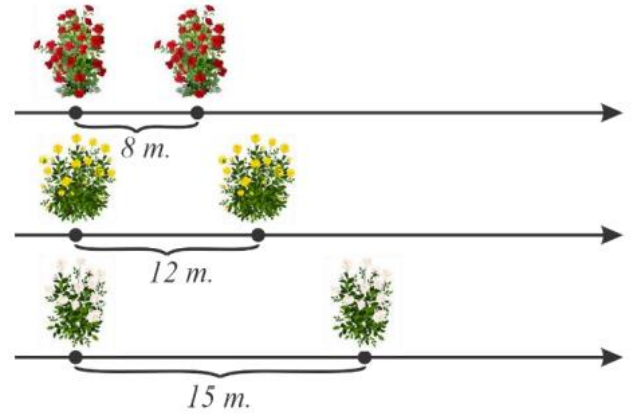
9. Optional problem: evaluate the complex fraction

$$\frac{3\frac{5}{11}\cdot 6\frac{3}{4}}{3\frac{5}{11}\cdot 6\frac{3}{4}+3\frac{5}{11}\cdot 1\frac{1}{2}}$$