Math 4c. Homework 27.

1. A farmer has a cow, a goat and a goose. The cow and the goat will eat all the grass on his meadow in 45 days, the cow and the goose will eat all the grass on the same meadow in 60 days, and the goat and the goose will eat all the grass on the meadow in 90 days. How many days will it take them altogether to eat all the grass on the meadow? (we assume that the new grass is not growing.)
2. If we reduce a (natural) number by 1 , then divide it by 6 and add 3 , we will get $\frac{1}{5}$ of initial number. What was the initial number?
3. The distance between two cities is 400.4 km . At the same time a car and a bus started moving toward each other from these cities. The speed of the car is 82.5 $\mathrm{km} / \mathrm{h}$, the speed of the bus is $11 / 15$ of the speed of the car. Which distance bus will travel before it will meet the car?
4. Fill the table:

| $a$ | 0 | 1 | -1 | 10 | -10 | 0.1 | -0.1 | $\frac{1}{2}$ | $-\frac{1}{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $a^{2}$ |  |  |  |  |  |  |  |  |  |
| $a^{3}$ |  |  |  |  |  |  |  |  |  |
| $a^{4}$ |  |  |  |  |  |  |  |  |  |

5. Evaluate:

$$
\left(1 \frac{2}{5}+3.5 \div 1 \frac{1}{4}\right) \div 2 \frac{2}{5}+3.4 \div 2 \frac{1}{8}-0.35=
$$

(Answer is 3 ) Write your solution.
6. Compute the value of the expressions $9 a^{2},(9 a)^{2},-9 a^{2},(-9 a)^{2}$ if
a) $a=\frac{1}{6}$
b) $a=-0.1$
7. In the picture on the right, set M represents students of the

4-th grade who participated in the math Olympiad,
set $L$ represents 4-th graders who participated in the Literature Olympiad, and set E represents the English Olympiad participants. How many students,
a. Participated in the Math Olympiad?
b. In the Math and English Olympiads?
c. In the Literature and English Olympiads?
d. In any of the three Olympiads?
e. In all three Olympiads?

f. In any two Olympiads?
g. How many 4-th graders did take part in Olympiads?
h. How many students did not participate in any Olympiad, if there are 60 students in the $4^{\text {th }}$ grade?

