Accelerated math. Homework 2. Please use the posted solution for HW \#1 as an example how the HW should be written in the notebook.

Problems marked with * are more difficult.

1. In the number 5236845 cross out three digits so that the resulting number will be
a. Biggest possible number
b. Smallest possible number
2. Solve the problem:

Students who participated in math competition had to solve 2 problems, one in algebra and another in geometry. Among 100 students 65 solved algebra problem, 45 solved geometry problem, 20 students solved both problems. How many students didn't solve any problem at all?
3. Solve the problems:
a. There are 54 rose bushes in a garden. Peter watered a half of all bushes, Ann watered also a half of all bushes. 3 rose bushes were watered twice. How many bushes Peter and Ann didn't water at all?
b. *There are 54 rose bushes in a garden. Peter, Ann, and Robert watered $\frac{1}{3}$ of all bushes each. 3 rose bushes were watered three times, 6 rose bushes were watered twice. How many bushes Peter, Ann, and Robert didn't water at all?
4. On the diagrams of sets $\mathrm{A}, \mathrm{B}$, and C put 2 elements so that
a. each set contains 2 elements
b. set A contains 2 elements, set B contains also 2 elements, and set C contains 1 element.
c. set A contains 2 elements, sets B and C contain 1 element each
d. set A contains 2 elements, set B contains 1 element, and set C is an empty set
e. set A contains 2 elements, set B contains 2 elements, and set C is an empty set
f. each set contains 1 element
a)

d)

b)

e)

5. Solve the problem:

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?
6. Compute:
a. $\frac{1}{5}+\frac{3}{5}=$
b. $\frac{1}{6}+\frac{2}{3}=$
c. $\frac{4}{14}+\frac{2}{5}=$
7. Solve the problem (draw a picture, use ruler!):

On a line three points are marked (point M , point N and point O ) so that the length of a segment $|M N|=5 \mathrm{~cm}$, the length of a segment $|N O|=3 \mathrm{~cm}$. What is the length of a segment $|M O|$ ? (be careful, look for all possible solutions).
8. * Solve the problem (draw a picture, use ruler!):

The length of a segment $|A B|=6 \mathrm{~cm}$. Point $C$ is marked on the segment $[A B]$. What is the distance between the middle of the segment [AC] and middle of the segment [CB]? Explain why.
9. Copy these two pictures to your notebook. Use compass and ruler.

10. 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?
11. Compute:
a. $6-8=$,
b. $-6+8=$,
c. $-8+(-6)=$,
d. $-8-(-6)=$

