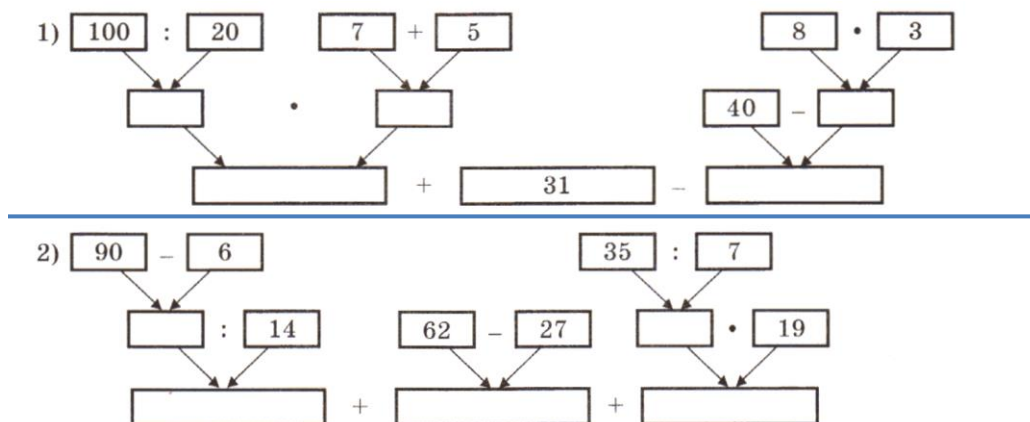


Algebra and Geometry 1. Homework 7.

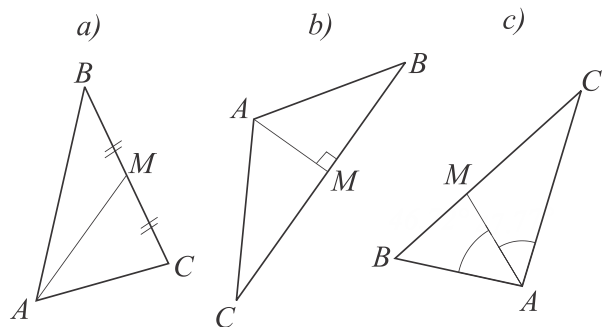


- There are 40000 books in a library. 75% of all books are in English, 10% of all books are in Spanish and the rest of the books are in French and German. How many books are there in the library in English and in Spanish?
- Grapes were dried to raisin. During the process, the weight of grapes was reduced by 70%. How many kilograms of raisin was produced from 200 kg of grapes? How many kilograms of grapes were dried if the weight of obtained raisin is 15 kg?
- One side of a rectangle was reduced by 20%, the other side was increased by 20%. How the area of the rectangle changed?
- Dry cranberries contain 25% of water. How much water should be evaporated from 5 kg of fresh cranberries to get dry cranberries, if fresh cranberries contain 85% of water?
- Three solutions of salt with concentration 10%, 15%, and 30% (it means that in the solution there are 10% (or 15%, or 30%) of the total mass is table salt and 90% (or 85%, or 70%) is water) are mixed together. The mass of the first solution is 180g, mass of the second solution is twice as the mass of the first solution, and the mass of the third solution is 100 g. greater than the mass of the second solution. What is the concentration of the salt in the mixture?
- Solve the following equations:
 - $x - 2(x - 3(x - 4(x - 5))) = 6$
 - $5x - 4(x - 3(x - 2(x - 1))) = 2$
 - $x - (x - (x - (x - 1))) = 1 - (2 - (3 - (4 - x)))$
 - $4x - (3x - (2x - (x - 1) - 2) - 3) - 4 = 0$
- Using the diagram below write the numerical expression and after that evaluate it.
Solution for #1 (you need to do #2):

$$100 : 20 \cdot (7 + 5) + 31 - (40 - 8 \cdot 3) = 5 \cdot 12 + 31 - 16 = 75$$



8. Peter asked his father, how old is he. "If you add four years to the half of my age, you will know how old I was 14 years ago" answered the father. How old Peter's father is?
9. On which picture on the right the segment AM is an altitude, a median, or a bisector?



10. Continue the spiral curve. Hint- each element of the line is a quoter of a circle. Draw the picture in your notebook, use a compass and a ruler!

