Accelerated math. Homework 23.



Problems marked with * are more difficult.

- 1. A swimming pool can be filed by one pipe in 10 hours or by second pipe in 15 hours. For 2.5 hours the pool was being filed by the firs pipe, then the second pipe was open. In how many hours after the opening of the second pipe the swimming pool will be filed up? Will be filed up by $\frac{3}{4}$?
- *Dry mushrooms have 15% of water. Fresh mushrooms have 80% of water. What is the weighs of fresh mushrooms required to get 100 g of dry mushrooms?
- 3. Using ruler draw a triangle, draw three altitudes in it (remember altitude is a segment in a triangle, which passes from a vertex to of the opposite side or the continuation of the opposite side and perpendicular to it.) Did all three of your altitudes intersect in one point? (to draw a perpendicular use anything with the right angle).
- 4. Find altitudes and medians on the following picture:



5. Evaluate:

$$\frac{1.75:1.25+1.4\cdot1\frac{4}{7}+\left(2.88+1\frac{3}{25}\right)\cdot0.1}{1:\left(\left(2.5:\frac{5}{18}-0.9\right):0.09\right)}$$

- 6. Ratio of number of girls and number of boys in the class is 2:3.
 - a. How many girls and how many boys are there in the class, if there are 35 students altogether?
 - b. How many boys are there if there are 8 girls in the class?
 - c. How many girls are there if there are 15 boys in the class?
- 7. Solve the following equations:

a)
$$2a - (14 - 3a) = -10;$$

b) $(9 - 2b) - (b + 5) = 16;$
c) $(9 - 2b) - (b + 5) = 16;$
c) $(14c - 7) = 5c + (11 - 7c);$
c) $(14c - 7) = 5c + (11 - 7c);$
c) $(14c - 7) = 16 + 2(5 - 3x) = 8;$
c) $(14c - 3a) = -10;$
c