Math 4a. Homework 14.
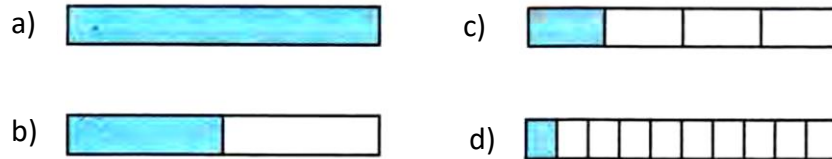
Problems marked with * are more difficult.

1. Evaluate the expression:
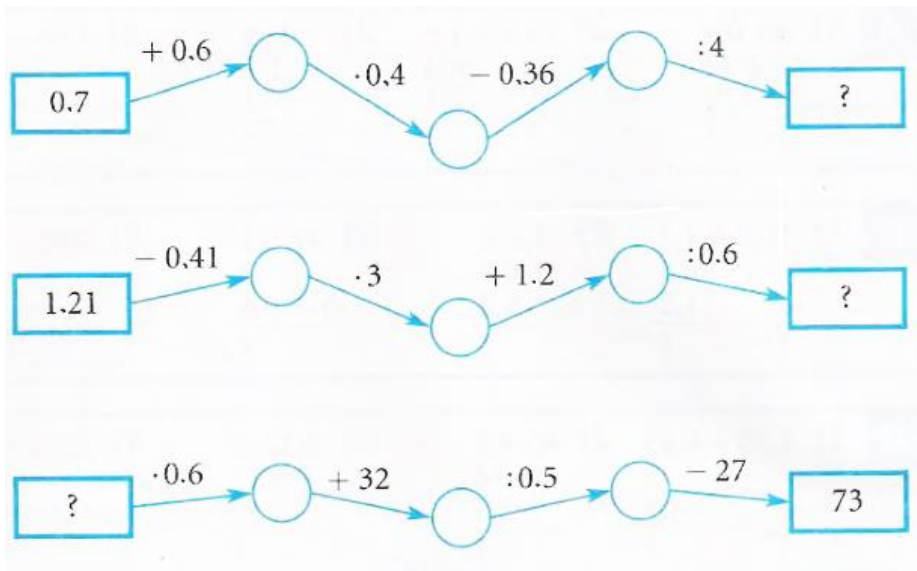
$$\left(\left(\frac{7}{9}-\frac{47}{72}\right)\div 1.25 + \left(\frac{6}{7}-\frac{17}{28}\right)\div(0.358-0.108)\right)\cdot 1.6 - \frac{19}{25};$$

Answer is 1, but you need to to show your solution.

2. Which part of the rectangles below is shaded? Which percentage of the area of the rectangles below is shaded?

a)

c)

b)

d)

3. What number should be placed instead of "?".

4. Draw the segment AC = 6cm. Mark the point B in such a way that

a) $\dfrac{AC}{BC}=1$;   b) $\dfrac{AC}{BC}<1$;   c) $\dfrac{AC}{BC}>1$;   d) $\dfrac{AC}{BC}=2$.

5. Robert has 2 dogs, one weighs 9 kg and another is 3 kg. He bought a bag of dog food and wants to divide the food between dogs with the same ratio as their weights. How many kilogram of dog food each dog will get if the weight of the whole bag of food is 8 kg.

6. There are 21 juice bottles out of which 7 bottles are full, 7 are half-full and the remaining 7 are empty to be divided amongst 3 friends equally. You don't have any measuring device. How will you divide them (both bottles and juice) equally?

7. Mary has two cats, Omelet and Doughnut. Each morning she gives them a box of cat food. Omelet can eat the whole portion of food in 15 minutes and Doughnut can eat it in 10 minutes. How many minutes do they need to eat all the food together?

   This Monday Mary put the food into the cat bowl when only Omelet was in the kitchen and he was eating it alone for 5 minutes. Then Doughnut smelled the food and joined Omelet in the kitchen. How long will it take them to eat the rest of the food together?