Math 4. Homework #18 is due on February, 23-rd.

No class On February 16th, but there is more homework!

1. Compute: Show your work and check the answer- it should be "1". Be neat!!!

$$\left(\left(\frac{7}{9} - \frac{47}{72}\right) \div 1.25 + \left(\frac{6}{7} - \frac{17}{28}\right) \div (0.358 - 0.108)\right) \cdot 1.6 - \frac{19}{25} =$$

2. In 2 boxes there are 160 notebooks altogether. In one box there are 20 more notebooks than in the other. How many notebooks are there in each box?

3. A) Mary has two cats, Omlet and Doughnut. Each morning she gives them a can of cat food. Omelet can eat the whole can of food in 15 minutes and Doughnut can eat it in 10 minutes. How many minutes do they need to eat a can of food if they eat it together?

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

4. Fill the empty spaces in the table:

a	b	a − b	b − a
20	7		
− 15	8		
30	− 9		
− 10	− 6		

5. The fourth grade is going on a school trip. Every student had to bring in $64 for the trip to cover all costs. Unfortunately, 3 students could not participate on the trip. Therefore, every student who went on the trip had to bring in $4 more so those who did not go could get their money back. How many students went on the trip?

6. a) To prepare 4 portions of seasoning you need $\frac{1}{3}$ teaspoon of salt, $\frac{1}{4}$ teaspoon of pepper and $\frac{1}{2}$ teaspoon of clove. How many teaspoons of salt, pepper, and cloves do you need to prepare 30 portions?

b) A pie recipe calls for 4 eggs, 1.5 cup of sugar, and $\frac{2}{3}$ cup of flour. How much sugar and flour do you need to prepare a dough using 9 eggs?
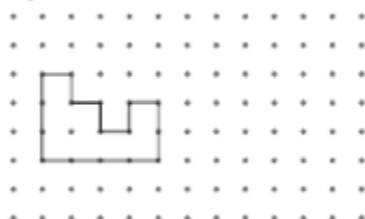
7. Compute:

    a. $42.18 \cdot 10 =$

    b. $0.0762 \cdot 100 =$

    c. $8.3 \cdot 100 =$

    d. $0.0056 \cdot 1000 =$

    e. $72.13 \div 10 =$

    f. $0.04 \div 10 =$

    g. $0.24 \div 100 =$

    h. $12.18 \div 1000 =$

    i. $0.0001 \cdot 10000 =$

9. Move each shape according to the given instruction

Slide

Flip

Turn

10. At Math Olympiad, 15% of the participants solved 1 problem, 25% of the participants solved 2 problems, and the remaining 24 students solved all three problems. Haw many students did participate in the math Olympiad?

11. 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?
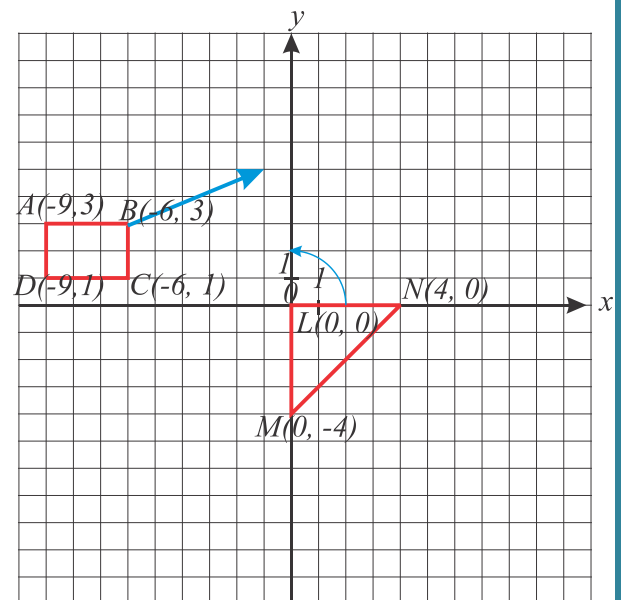
12. Compute:

б) $$\dfrac{4 + \dfrac{1}{\dfrac{1}{2} - \dfrac{1}{3}}}{4 - \dfrac{1}{\dfrac{1}{2} - \dfrac{1}{3}}}$$

13. Translate the rectangle corresponding to the blue arrow. This means that the point B has to move to the end of the arrow and every other point on the graph has to follow the same move.

Rotate the triangle around the point L(0,0) according to the blue arrow.
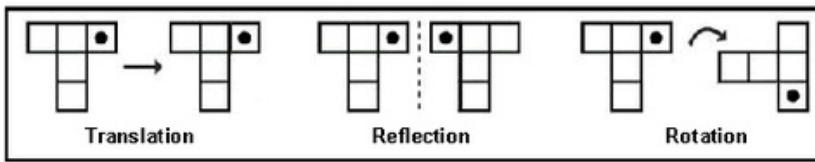
Write the coordinate notation as we did in class.

14. What percent of 32 is 20?

15. Identify each shape as Transition (T), Reflection (Ref) or Rotation (Rot)

Example:

Translation   Reflection   Rotation

1)

2)

3)

4)

5)

6)

7)

8)

16. You are traveling and come to a fork in the road. One path takes you to your destination and the other to your death. Unfortunately, you do not know which is which. Luckily, two people are there to guide you, a knight and a knave. You do not know who is who, but you are allowed to approach one of them and ask a single YES-NO- question. What question do you ask to reveal the correct path?