MATH 4: Homework 5

Write the answers on separate sheets of paper, not between the lines.

1. Do you think that among four consecutive natural numbers, there will be at least one that is divisible by a) 2?   b) 3?   c) 4?   d) 5? Explain your answer.

2. Among the numbers 5, 7, 21, 25, 28, 35, 42, 56, 75, 80 choose those that
   a. are multiples of 5
   b. are divisors of 100
   c. are not divisors of 42
   d. are multiples of 4 and 7
   e. are multiples of 4 or 7.

3. Find the values of both expressions and compare them:

   a. $(5 \cdot 8) + 14 \ \ and \ 5 \cdot 8 + 14;$

   b. $5 \cdot (6 + 4) \cdot 25 \ and \ 5 \cdot 6 + 4 \cdot 25$

4. There are bicycles and tricycles in a daycare center, 21 in total. The total number of wheels on all tricycles and bicycles is 55. How many tricycles and how many bicycles are there in the daycare? (Hint: how many wheels would be there if there were only tricycles?

5. Knives are sold in packs of 10, forks in packs of 12, and spoons in packs of 15. If you want to have the same number of each item for a party, what is the least number of packages of each that you need to buy?

6. Which number sould be placed instead of "?" ?

Top row: $28 \xrightarrow{+29} \bigcirc \xrightarrow{:19} \bigcirc \xrightarrow{\cdot 70} \bigcirc \xrightarrow{-180}$?

Bottom row: ? $\xrightarrow{-17} \bigcirc \xrightarrow{:11} \bigcirc \xrightarrow{\cdot 50} \bigcirc \xrightarrow{:25}$ 6
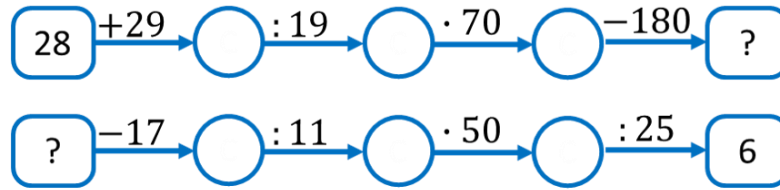
7. Robert did his math assignment but he stained his notebook. Each drop of ink covers the same digit, which is greater than 0. Please, restore his homework!

$$(\blacksquare\blacksquare + \blacksquare\blacksquare + 1) \times \blacksquare = \blacksquare\blacksquare\blacksquare$$

8. The Johnson family bought a total weight of 18 kg of tomatoes, cucumbers, and onions on the farm. If the kilograms of cucumbers were four times as much as the onions and the tomatoes were as much as the cucumbers, how many kilograms of each vegetable did they buy?