

Practice 1.3 (October 2)

Link to the poll: <https://goo.gl/forms/CDXubqHnFvwBynnj1>. Closed: Monday 2, 10 pm.

1. Is the division associative? Find the values that can be obtained when parentheses are added to the expression $64 : 8 : 2$ in different ways.
2. Compute $835 : 37$ using the ABN algorithm and the algorithm proposed in the slide 45. This second algorithm is known as “partial quotients algorithm”. An example can be seen in this video
<http://everydaymath.uchicago.edu/teaching-topics/computation/div-part-quot.html>
3. We know that when a number is divided by 72 the remainder is 67. How much should be added to the number if we want that the remainder obtained when the new number is divided by 12 is 3?
4. If we know that $61\,595 = 635 \times 97$, explain how you could compute the quotient and the remainder obtained when 615 972 is divided by 97 without any further computation.
5. Find the smallest number that is bigger than 500 and has remainder 19 when it is divided by 27.
6. © Imagine that you are working in the staff of an organization that has collected 1 million signatures (in paper). You have to organize the transport to the Parliament. Make an estimate of the class of vehicle that you will need for that.

7. Fill in the boxes with the digits from 4 to 9 in such a way that the result is as large as possible.

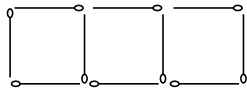
$$\square + \square \times \square + (\square - \square) \times \square =$$

8. Fill in the boxes of the multiplication with the digits from 6 to 9 in such a way that the product is as large as possible, and the boxes of the division in such a way that the quotient is as small as possible.

$$\begin{array}{r} \square \ \square \\ \times \ \square \ \square \\ \hline \end{array}$$

$$\square \square \square : \square \square$$

9. We want to make the construction of the figure, with a total of 50 squares. How many matches will we need? Explain your reasoning.



10. How many cubes are there in the fifth figure of the following pattern? And in the tenth one? (Cubes are not glued to each other, so there are cubes that are hidden in the picture).

