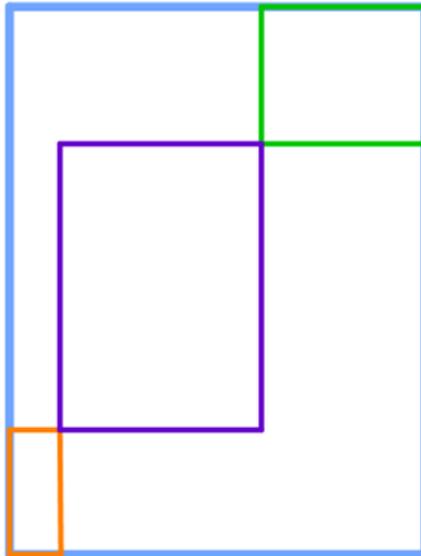


Grade 4-5 questions

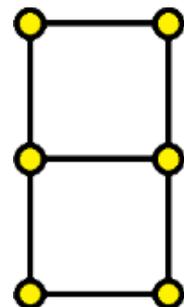
1. The blue rectangle has a circumference of 77 meters, the orange rectangle has a circumference of 14 meters, and the green rectangle has a circumference of 23 meters. Calculate the circumference of the purple rectangle.



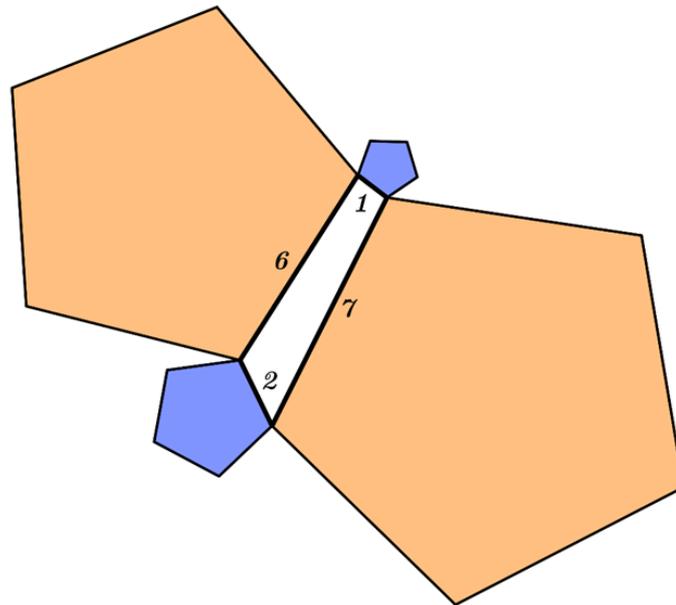
2. In Miri's birthday party there were 34 balloons in 7 different colors (there is at least one balloon in each color). Each color has a different number of balloons. No color had exactly 4 or exactly 8 balloons. The color with the most balloons was blue. How many blue balloons were there?
3. Avihai, Benjamin and Gefen have bought together 42 chocolate candies and 25 gummy candies. The total weight of all of the candies they bought is 1215 grams. The three children divided the candies between them such that each child got one third of the total weight of candies. Gefen got 15 chocolate candies and 7 gummy candies. What is the weight of a single chocolate candy? (Assume each of the chocolate candies has the same weight, and each of the gummy candies has the same weight)
4. A king has sent 5 servants to count the number of sheep in his kingdom. The reports he received back from his servants were:
 - The number of sheep in the kingdom is divisible by 5.
 - The number of sheep in the kingdom is divisible by 10.
 - The number of sheep in the kingdom is divisible by 20.
 - The number of sheep in the kingdom is divisible by 25.
 - The number of sheep in the kingdom is divisible by 40.

It is known that exactly 2 of the reports were false and that there are fewer than 100 sheep in the kingdom. What is the largest possible number of sheep in the kingdom?

5. In a far away country there are six cities connected by several roads as described in the image. The king wants to shut down some set of roads (containing at least one road) such that it is still possible to reach every city from every other city. In how many different ways can the king do so?



6. In the image there is a quadrilateral with side lengths 1, 2, 6 and 7. A regular pentagon is built upon each side of the quadrilateral. Compute the ratio between the total orange area and the total blue area.



7. Gabby has a truck with a 5×5 shaped hull (see image).



He wants to transfer several pieces of furniture from his office to his house:

- 300 benches shaped 5×1 (that is, each bench takes up a 5×1 rectangle within the hull of the truck),
- 200 closets shaped 2×4 ,
- and 100 tables shaped 3×3 .

What is the minimal number of round trips he needs to perform in order to move all pieces of furniture?

Note: the furniture must be placed in the hull according to the lines – that is, they cannot partially cover any of the 1×1 squares.