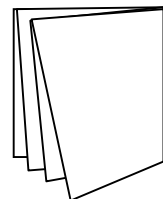


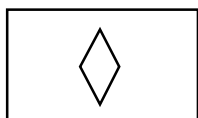


Read the problems carefully. You can solve the problems in any order. Record your solutions on the answer sheet.

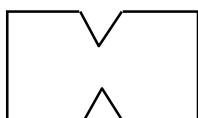
**Problem 1.** Karlson was given a box of candy. He ate  $\frac{1}{3}$  of all the candies for breakfast, for lunch he ate 2 pieces of candy less than he ate in the morning, and he ate the 9 left over pieces of candy for dinner. How many pieces of candy were in the box originally?



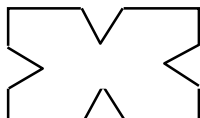
**Problem 2.** Mike folded a piece of paper 4 times as shown on the picture. He then made one straight cut. What are all the possible shapes he could *not* see when he unfolds the paper?



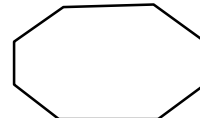
A



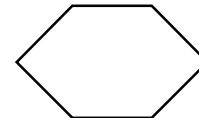
B



C

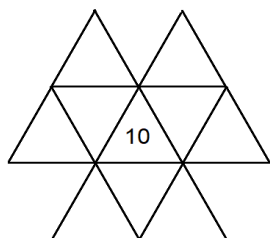


D

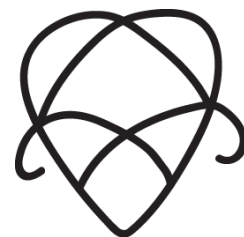


E

**Problem 3.** Fill in the digits 1 through 9 into the small triangles in such a way that the sum of all 4 numbers in each of the big triangles is 25.

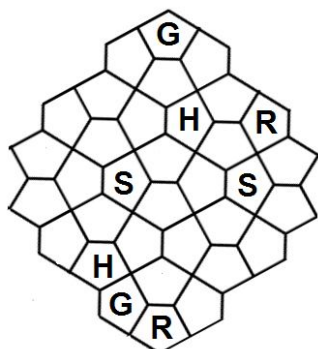


**Problem 4.** Luke Skywalker has the emperor Palpatine's crest (shown in the fig.), which is made from a golden wire. To rid the emperor of his power, Luke has to split the imperial crest into 6 pieces. His light saber can cut through the wire, but it is low on battery and he can only cut the crest in 3 places. How should he do it?



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**Problem 5.** Veronika gave David a two digit number. David discovered that if he multiplies the number by 3, the number of digits will not change. He also found that if he subtracts 3 from the number, and then divides it by 3, he will still end up with a two-digit number. Can you figure out what number Veronika gave David?



**Problem 6.** All 4 of the Hogwart's houses (Ravenclaw, Gryffindor, Hufflepuff, and Slytherin) have their own Library and their own Gym. It is required by the rules that each house has to have a separate corridor from the Library to the Gym, painted in the house colors (all houses have different colors). Moreover, these passageways should never intersect each other. Draw the corridors on the picture. You can only move from one room to another through the wall they share (never through the corner).

**Problem 7.** On the 12th of April, Spongebob and his friends launched a rocket to Mars. Squid told his friends that the rocket will not reach Mars right away, but in one... and he paused. Their friends tried to guess what he had in mind: "1 second?" "1 minute?" "1 hour?" "1 day?" "1 week?" "1 month?" Squid told them that one answer was right and the other answers were 24 times, 60 times, 168 times, 720 times, and 3600 times wrong. In how much time, in Squid's opinion, the rocket will reach Mars?

**Problem 8.** Maria, Ellen and Dasha were born in the same year but during different times of the year: in the winter, in the spring, and in the summer. Ellen is younger than Dasha, and Maria's and Dasha's first birthdays were more than half a year apart. Which time of the year was each of the girls born, if we know that on September 1st not all of them were the same age (in full years)?