1. Find all solutions $a, b, c, d, e, f, g$ if it is known that they represent distinct digits and satisfy the following:

$$
\begin{array}{c}
\times \\
& a & b & c & b \\
\hline
& c & d & b & d & b \\
\hline
+ & c & e & b & f & b \\
\hline
& c & g & a & e & g & b \\
\end{array}
$$

2. 5 numbers are placed on the circle. It is known that the sum of any two neighboring numbers is not divisible by 3 and the sum of any three consecutive numbers is not divisible by 3. How many numbers on the circle are divisible by 3?

3. $n$ teams played in a volleyball tournament. Each team played precisely one game with all other teams. If $x_j$ is the number of victories and $y_j$ is the number of losses of the $j$th team, show that

$$
\sum_{j=1}^{n} x_j^2 = \sum_{j=1}^{n} y_j^2.
$$

4. Three cars participated in the car race: a Ford [F], a Toyota [T], and a Honda [H]. They began the race with F first, then T, and H last. During the race, F was passed a total of 3 times, T was passed 5 times, and H was passed 8 times. In what order did the cars finish?

5. The side of the square is 4 cm. Find the sum of the areas of the six half-disks shown on the picture.