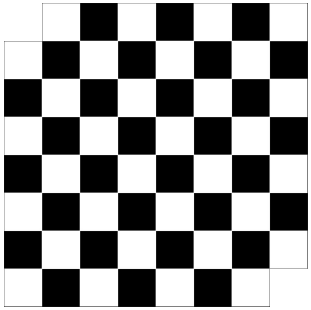
Welcome to the first Maths Challenge!
Everyone is encouraged to take part.
There are 3 to 5 merit points for correct solutions, depending on the difficulty of the problem and how impressed the marker is with your solution.
There are house points for students who submit 7 or more correct solutions in one term.
Solutions must be explained in detail, responses with just the answer may be ignored.
Drop your solution in the box in the staffroom by Tuesday.

Year 8 and below

You have a chess board from which two diagonally opposite squares have been removed. You also have thirty-one dominoes, each of which can cover two squares of the chess board. Can the dominoes be arranged so that they cover all sixty-two squares of the chess board? If so, how? If not, why not?



Year 9 and above

Find the integer solutions to this pair of equations.

$$ab + c = 2020 \quad (1)$$

$$a + bc = 2021 \quad (2)$$