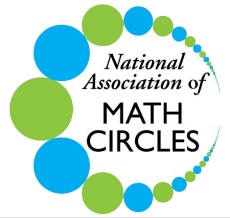




Wolves & Sheep

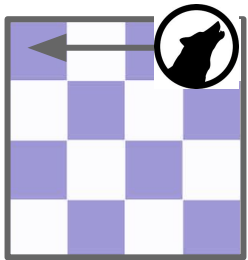


Rules of Wolves & Sheep

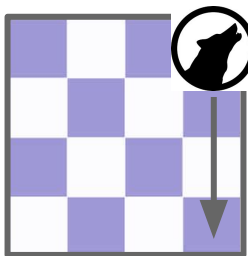
Your goal is to place wolves & sheep on the board so that all your sheep are safe from the wolves.

Wolves can eat any sheep that they have a straight path to reach them on the chess board.

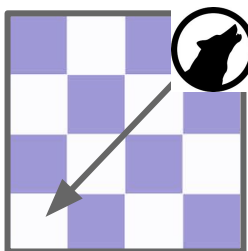
So wolves can eat any sheep that are:



Any number of spaces horizontally



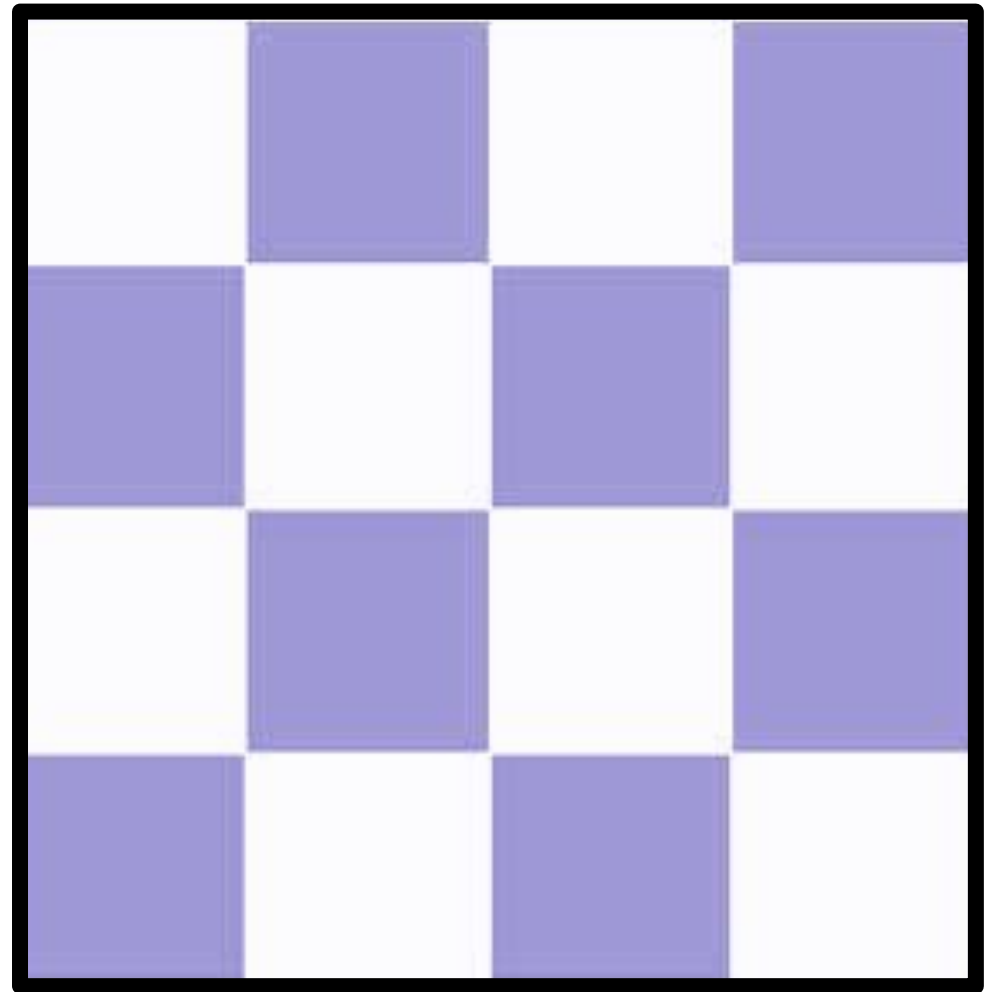
Any number of spaces vertically



Any number of spaces diagonally

Directions

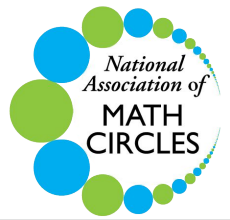
Can you place two wolves and three sheep on the board so that all the sheep are safe?



When done with the above, try to place three wolves so that two sheep are safe.



Wolves & Sheep



Use the 5 by 5 board to answer the following:

1. How many sheep can be safe from a single wolf?
2. How many wolves can be placed so a single sheep can be placed safely on the board?
3. Is it possible to safely place five wolves and three sheep on the board?
4. Is it possible to safely place three wolves and five sheep on the board?
5. What is the most sheep you can safely place on a board with two wolves?
6. Based on any patterns you've noticed, how many sheep do you think can safely hide from a single wolf on a **6 by 6** chess board?
7. Can you find the largest possible number of sheep you can safely hide from a single wolf for any square **n by n** chess board?