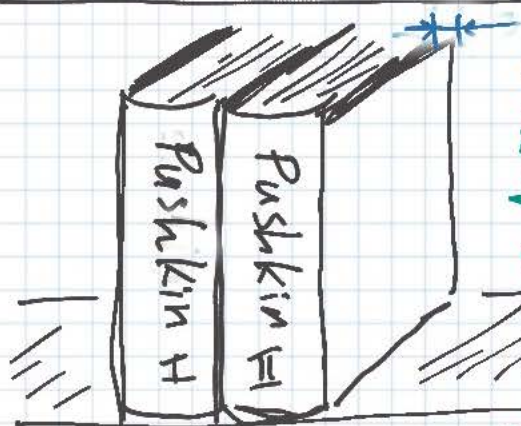


Caterpillar

↑ crawls 3 ft up each day
↓ slides 2 ft down each night

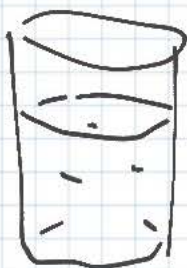
In how many days will it reach the top?



50 mm 60 mm

2 mm
A bookworm ate from the first page of volume I through the last page of volume II.

How long was the hole the bookworm made?



MILK

①



1 spoon of milk

②



1 spoon of the mix



COFFEE

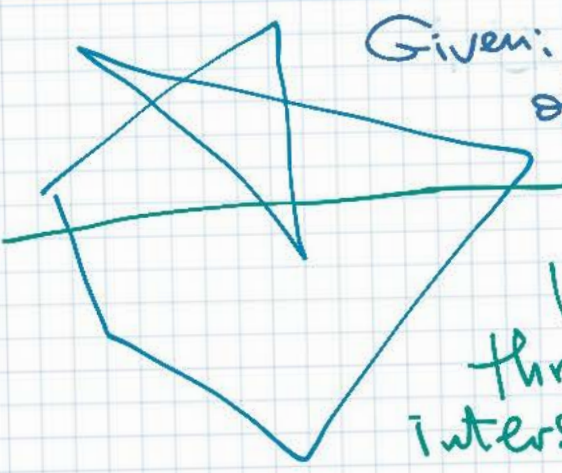
Is there more milk in coffee or coffee in milk?



Petri dish

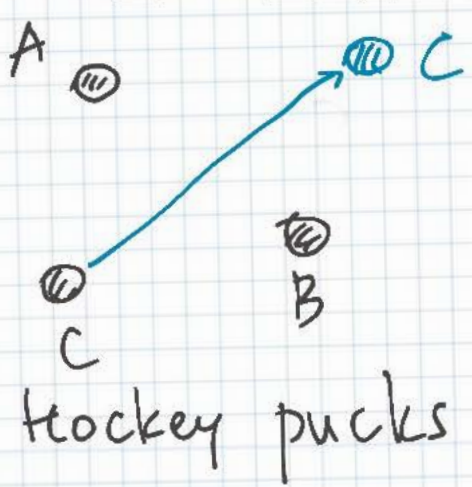
Bacteria divides every second.

After 1 minute the dish is full. When was it half-full?



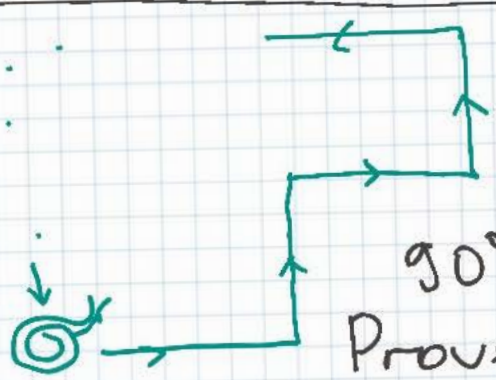
Given: a closed broken line of 7 segments.

Can a straight line not passing through vertices intersect each segment?



Player hits one so that it passes between the other two.
After 25 moves, can all three return to the starting positions?

$$1 \pm 2 \pm 3 \pm 4 \pm 5 \pm 6 \pm 7 \pm 8 \pm 9 \pm 10 \neq 0$$



Snail crawls with constant speed, and turns 90° every 15 min.

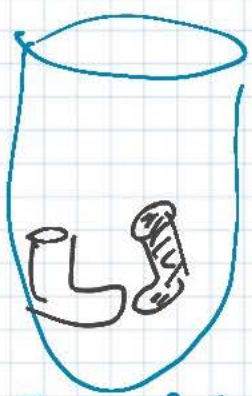
Prove that it can return to the starting point only after a whole number of hours.

	a	b	c	d	e	f	g	h
8								
7								
6								
5								
4								
3								
2								
1								



domino pieces

Can you tile this chess board with 31 domino pieces?

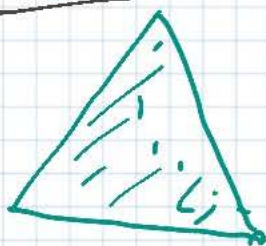


20 white
20 black

① What is the smallest number of socks that one needs to draw to guarantee a non-pair?

② To guarantee a pair?

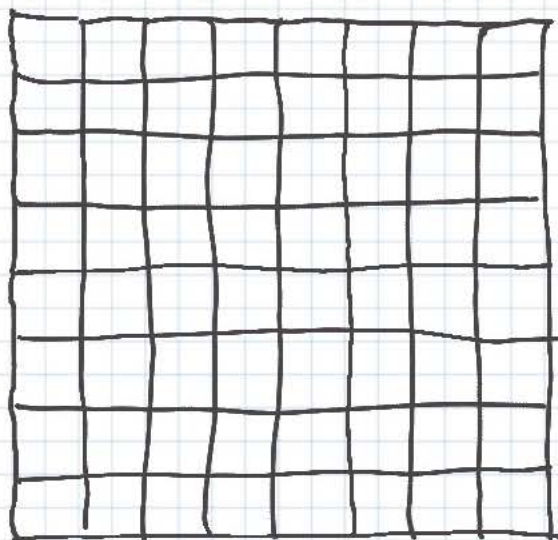
Bag of socks



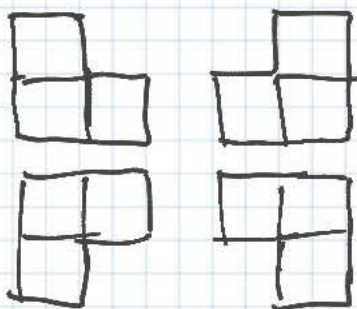
An equilateral triangle cannot be covered by 2 smaller equilateral triangles.

Prove that in any group of 5 people there are two with the same number of friends within the group.

Among 25 apples of 3 sorts, there are at least 9 of the same sort.



What is the smallest number of squares on the 8×8 board that one needs to color green so that every tromio placed on the board has at least one green square?



trominos

green square?