

THE JOSEPHUS PROBLEM

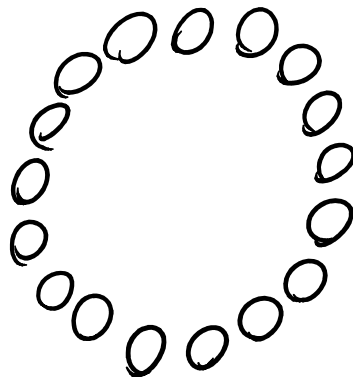
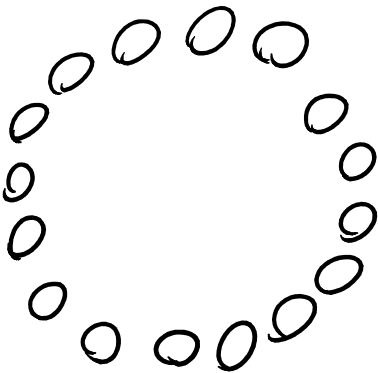
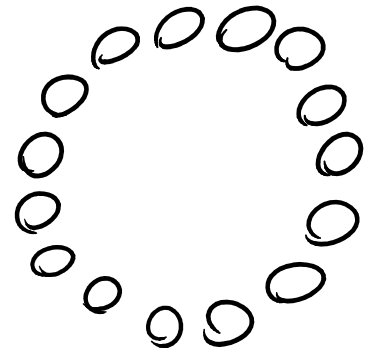
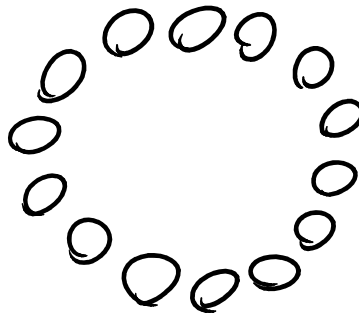
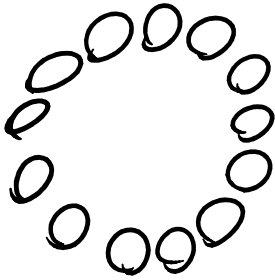
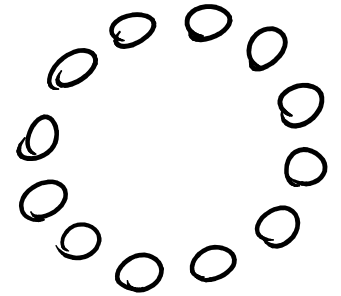
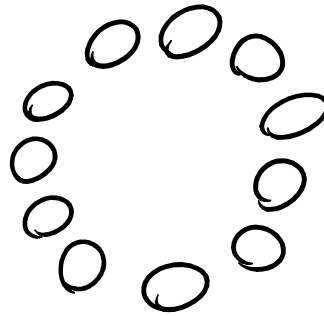
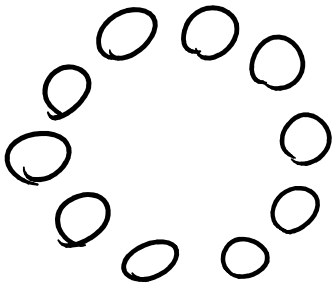
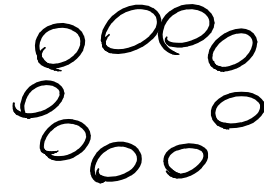
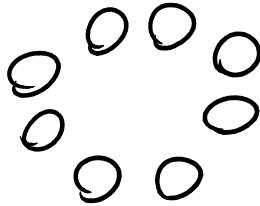
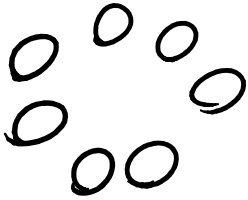
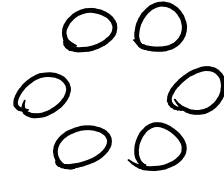
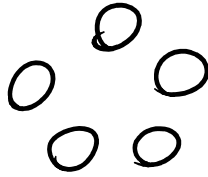
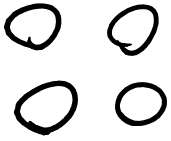
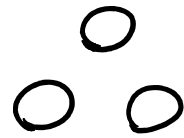
50 60 70 80 90 The year is 87 AD.
40 0¹⁰
30 0¹¹ You are a prisoner
20 0 0¹² of the Roman army.
1 0¹³

To celebrate the festival of Jupiter, the Romans declare that one prisoner will be released the next day, according to a game:

- One circle is drawn on the ground for each prisoner. The circles are numbered starting from 1.
- All prisoners pick a circle to stand on.
- Starting from number 1, the guards skip one person (#1) then eliminate the next (#2) then skip another (#3) and so forth, until all but one are eliminated.
- The last person remaining will be freed.

WHICH CIRCLE SHOULD YOU STAND ON?

Unfortunately, you won't know how many prisoners there are in advance, so your strategy must cover all possibilities.



Bonus PROBLEM:
What if 2
people are skipped
each time and
1 person is
eliminated?