

FOLD, CUT, AND PROBLEM SOLVE: A MATH TEACHERS' CIRCLE SAMPLING

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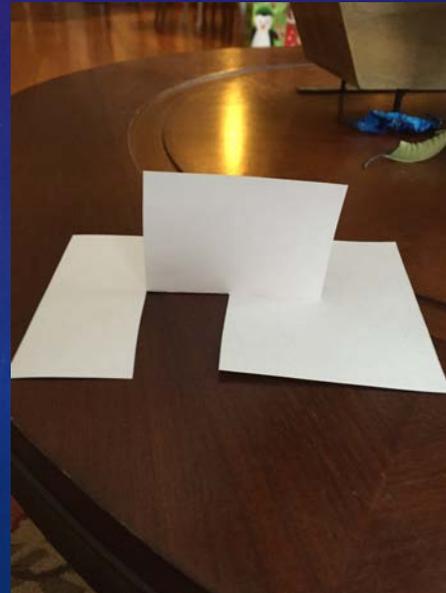
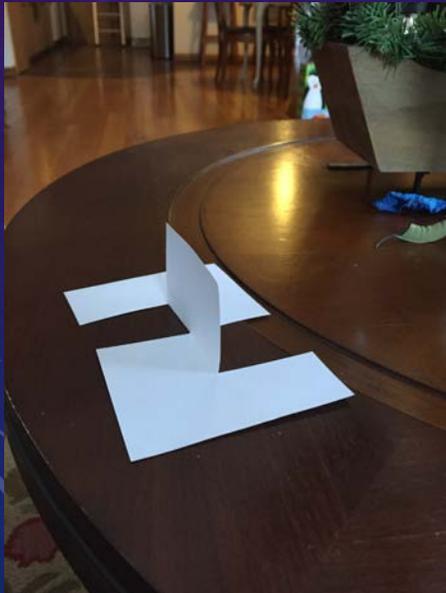
UNIVERSITY OF NEBRASKA OMAHA

OMAHA AREA MATH TEACHERS' CIRCLE

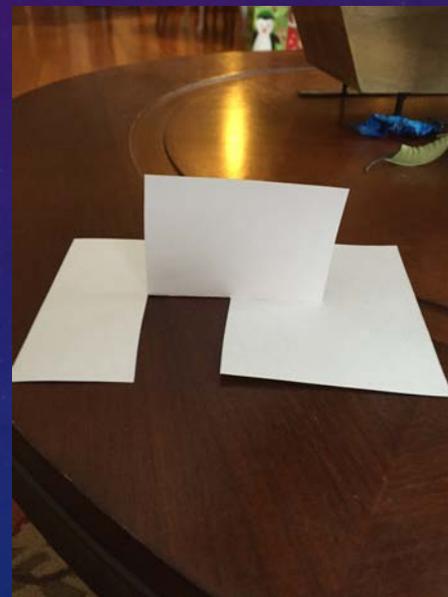
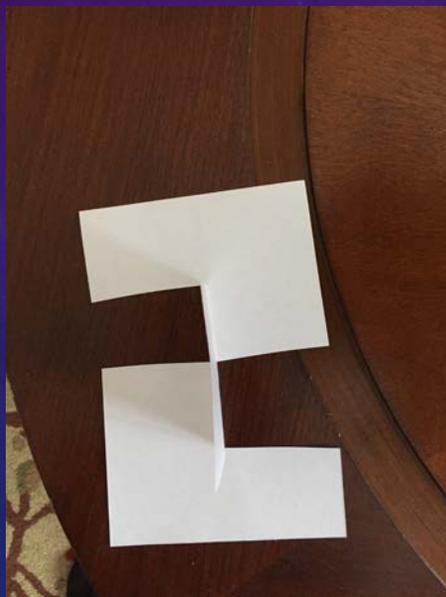
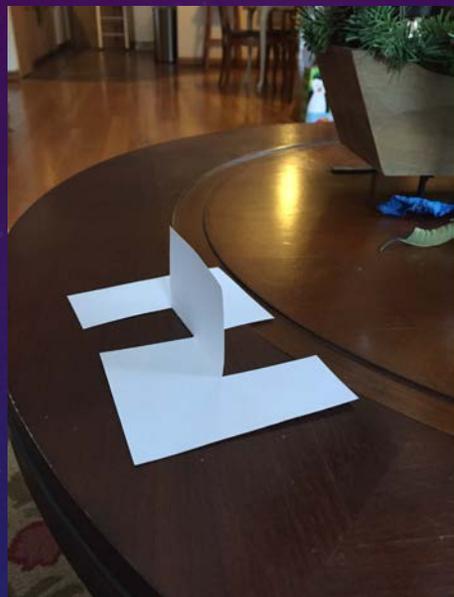
- One of Nebraska's many MTCs, which formed in 2010
- Three meetings per semester
- Main target is middle school teachers
- Several pre-service teachers participate.

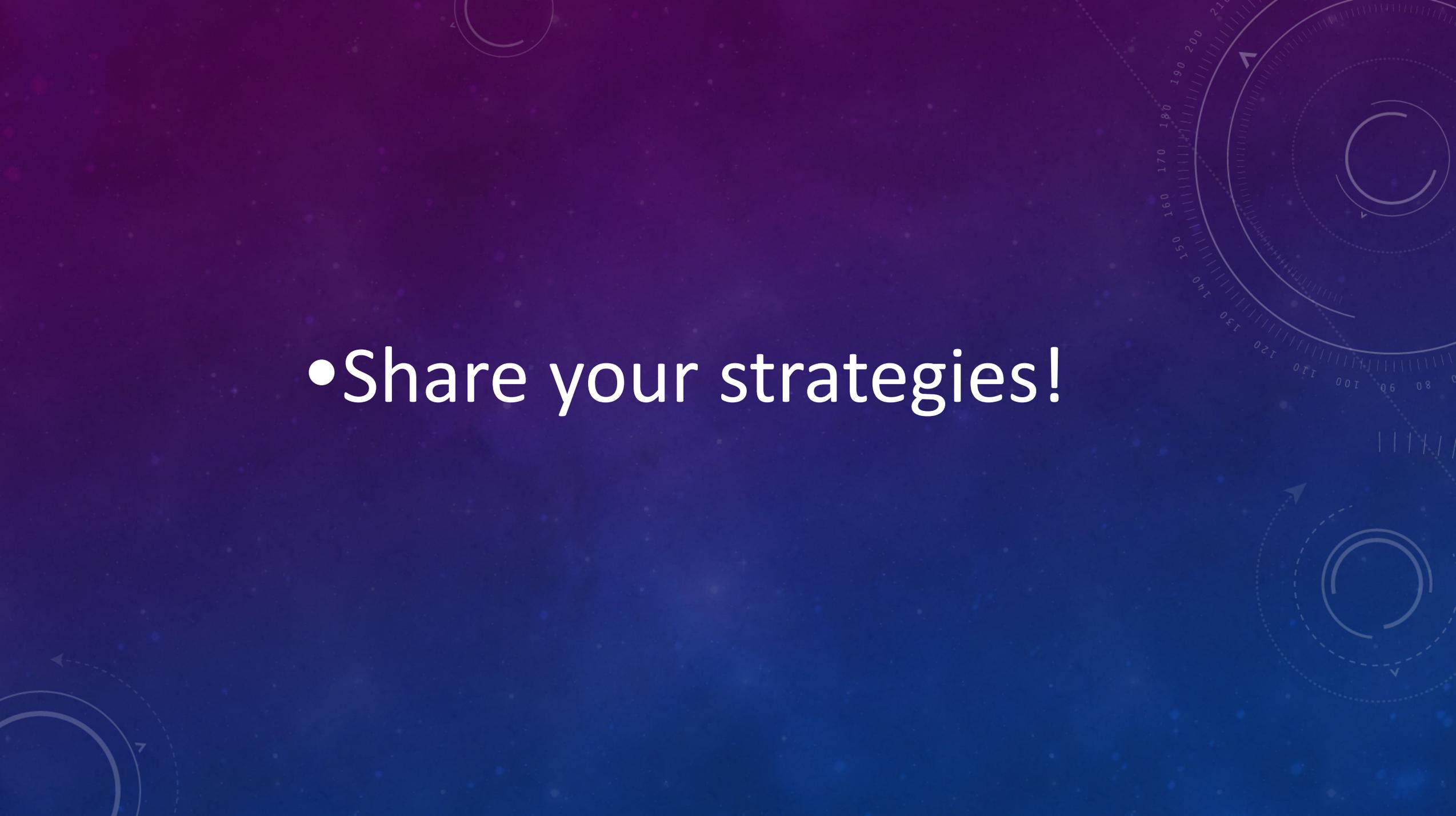
SAMPLE PROBLEM:

- The task is to make an index card look like the pictures below.
- You are allowed to use only scissors and a ruler. (We will tear).



TRY THIS WITH TEARING AND FOLDING

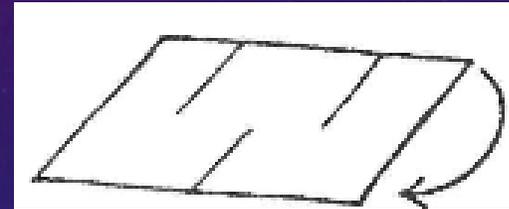




• Share your strategies!

SAMPLE PROBLEM: REVERSE ENGINEERING AN INDEX CARD

- First cut the index card as shown to the right.
- Second pull the tab in the middle straight up.
- Third hold the left side of the index card (Don't let this side rotate).
- Forth flip the right side of the card 180 degrees.



SAMPLE PROBLEM :

ONE THROUGH EIGHT BOOKLET

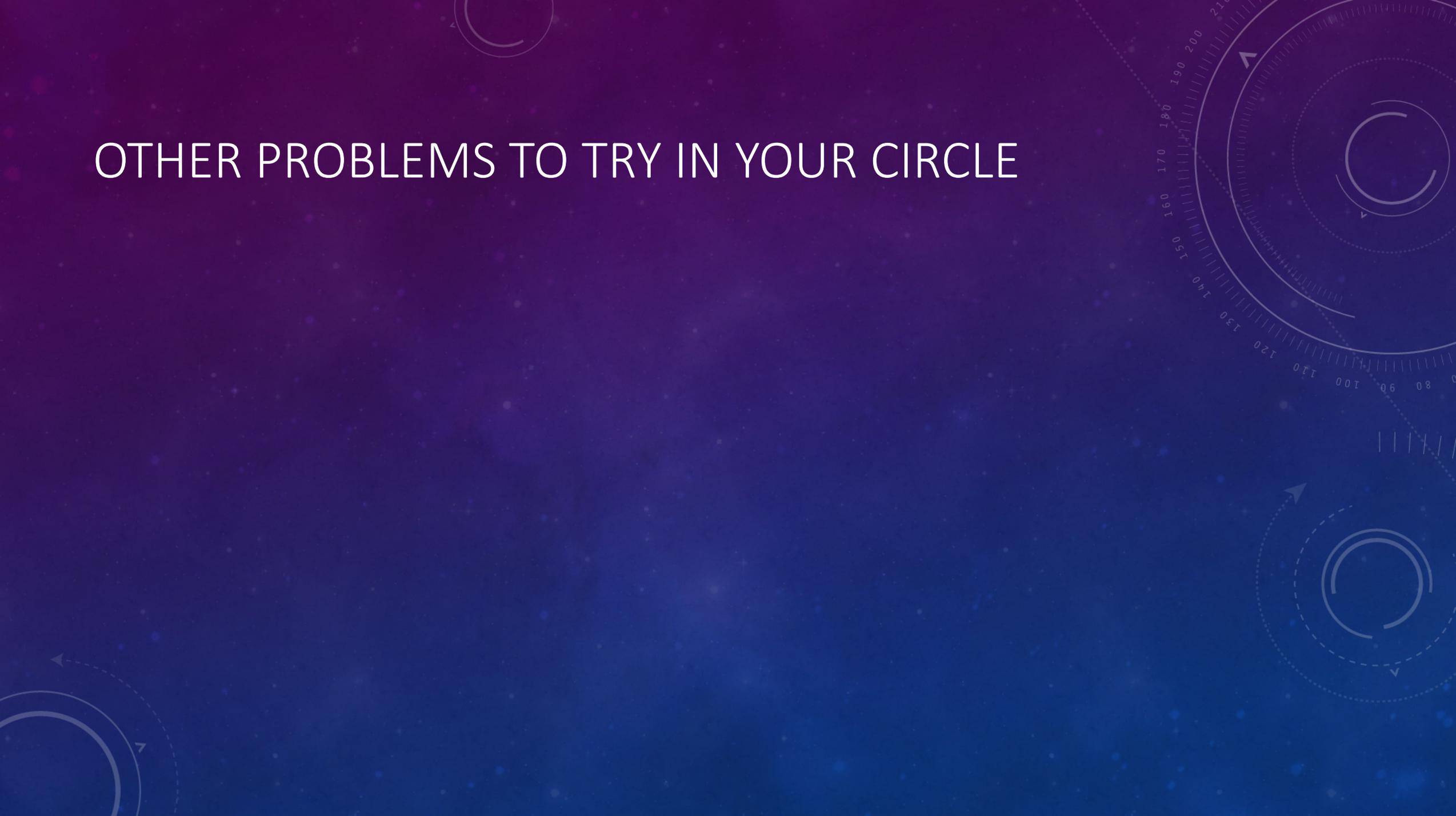
- The goal of this problem is to arrange the numbers into a booklet where the front page is one, the second page has a two and so on. The back page will have an eight.
- You aren't allowed to cut this one.

2	1
3	8
6	7
5	4

SOLUTION TO PAPER FOLDING

- <https://www.youtube.com/watch?v=hyUerNfX44E#t=21.37076725>

OTHER PROBLEMS TO TRY IN YOUR CIRCLE



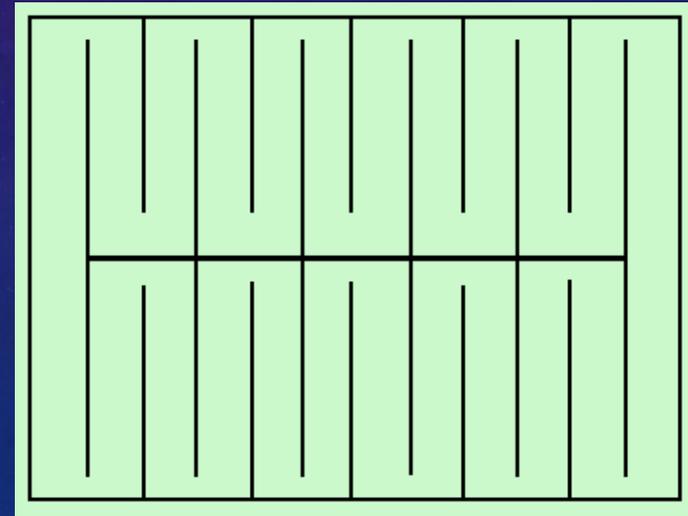
PROBLEM:

WALKING THROUGH PAPER

- On a standard 8 ½ in by 11 in piece of paper, find a way to cut the paper so you can walk through it (literally).
- You are allowed to use scissors and allowed to fold the paper
- The paper must remain in one piece and it must be a continuous piece.

SOLUTION PROBLEM WALKING THROUGH PAPER:

- Make these cuts on a piece of paper.
 - It may be faster to first fold the paper.
- Open the the paper up (will form a ring).



PROBLEM: MAKING A CUBE

- In this problem you will have a piece of paper whose front and back are different colors. The goal is make a cube of only one color on the six sides.
- You may only cut or fold along the lines.

SOLUTION PROBLEM: MAKING A CUBE

- The answer is shown to the right. Note that in this solution the middle section was cut out.

