Math Teachers' Circles

and

The Game of Set

Math Teachers' Circle of Oklahoma
October 3, 2013
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What is a Math Teacher's Circle

e mission of the national Math Teachers'
cle (MTC) program, developed at the
erican Institute of Mathematics (AIM), is
ablish the foundation for a culture of
blem solving among middle school math
chers in the U.S.

For more information visit:
www.mathteacherscircle.org

ostering the confidence to tackle open-ended
h problems, middle school teachers become be
ipped to initiate more student-centered, inquiry-
ed pedagogies in their classrooms. The two
nary goals of the program are 1) to engage mido
ool math teachers in mathematical problem solv
involve them in an ongoing dialogue about mat
n students, colleagues, and professional
thematicians; and 2) to provide guidance,
terials, and resources to middle school math
chers that will enable them to promote open-end
blem solving as a way of learning, thinking abou
practicing mathematics in their classrooms.

Participant comments

have enjoyed participating in the North Louisiana Math Teachers' Circle. I find the program to be of immense value in enriching my understanding of mathematics, so that I can then better instruct my students.

was able to figure out all of the problems, but I most enjoyed working the abstract problems that were beyond skills of my usual curriculum or where pattern recognition was important. I used some of the problems with my students, but others would be a little beyond their reach. My students most enjoyed the silliness of #4.

4

The Wicked Witch has the power to cast 7 different evil spells: Poison Apple; Endless Sleep; Thorn of Death; Eternal Hiccups; Infinite Ugliness; Agony of Fire; and Warlock's Plague. She decides to cast 3 spells on poor Snow White.

How many different sets of spells could she choose?

If the Magic Mirror chooses the spells at random, what is the probability that Infinite Ugliness will be one of them, and Thorn of Death won't be one?

he kids were interested to know about where I got th
oblems and what we did for the evening. They were
nazed that I would voluntarily spend an evening doi
ath, but it allowed for a class discussion about how
lving problems makes me feel like a detective on a
se. It's sometimes hard to get kids at this age to
derstand the beauty of mathematics, but hearing
out how I figured out some of the problems and som
my missteps seemed to help them understand how
portant it is to persevere. If nothing else, they
derstood that I believe that learning continues
oughout life.

enjoy our meetings because it keeps my problem-solving skills sharp and I always pick up something I can take to the classroom, whether it's a tricky problem or an activity or a teaching method. I always learn something at each meeting

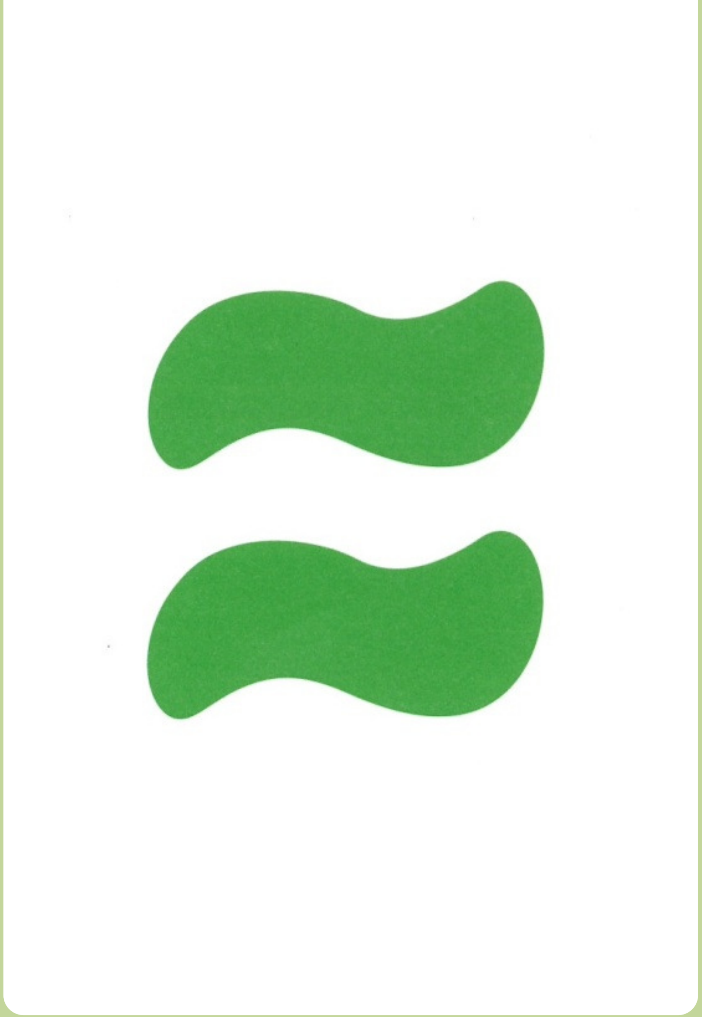
don't often get the chance to visit and collaborate with other teachers outside of my parish. Through NLMTC, I have been able to enjoy a unique fellowship of middle school math teachers from all of northwest Louisiana. It has been a great experience hearing the points of view and thoughts of others. I have found myself challenged intellectually at times, but I know that we have to stretch to grow. The summer workshop was wonderful, pushing me to learn ways to make some difficult math personally meaningful and relevant for my students. I will continue to be a part of NLMTC as long as we keep meeting.


Hundreds Board
Decimals
Welcome!

Enough talking!

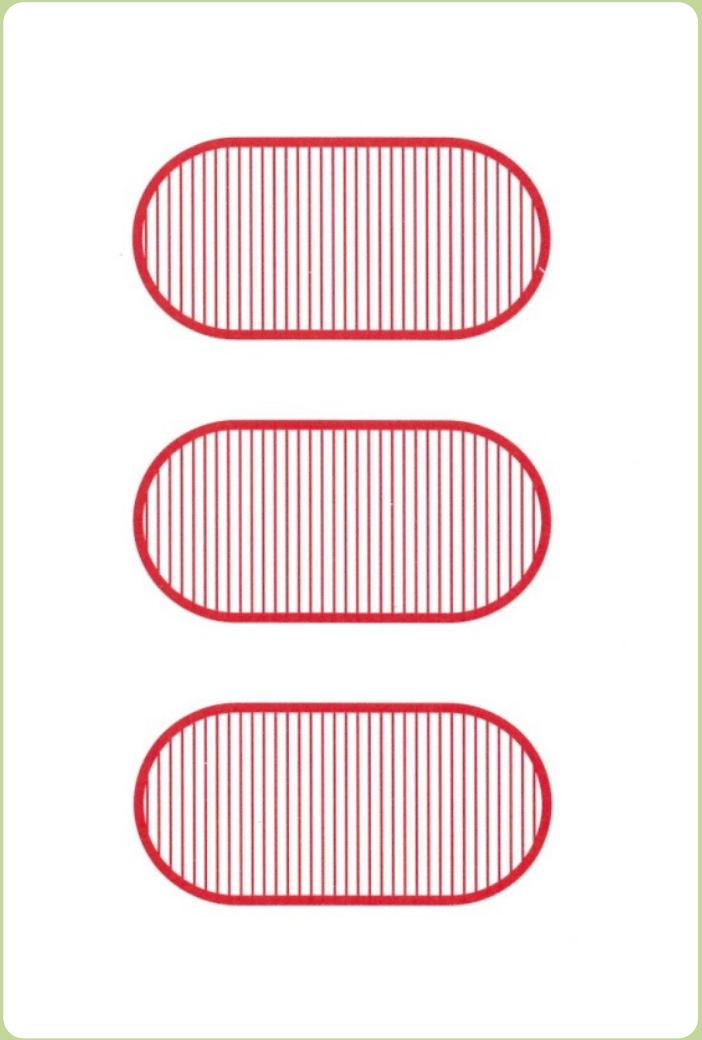
Let's play Set!

What do the cards in a SET game look like?

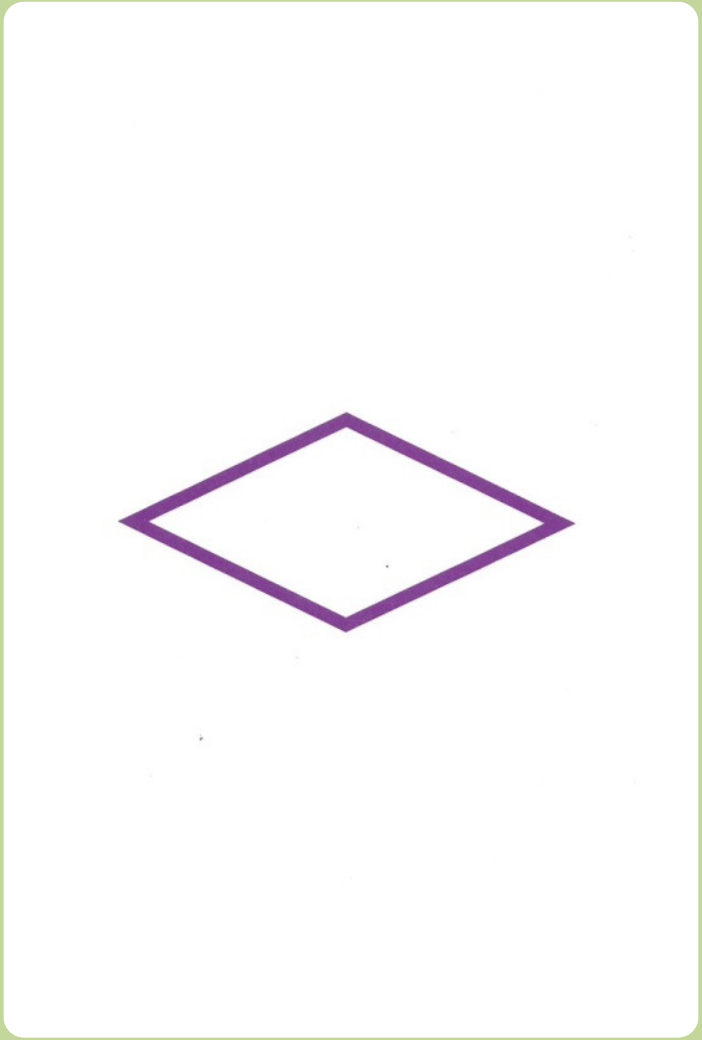


Two solid green squiggles

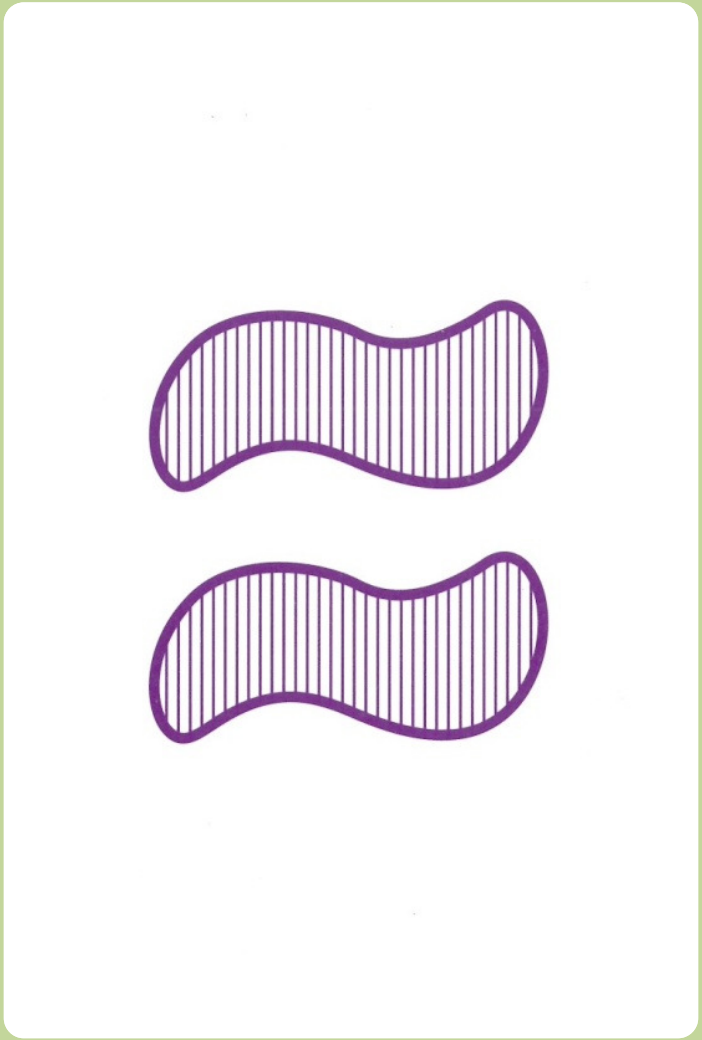
Number, Shading, Color, Shape



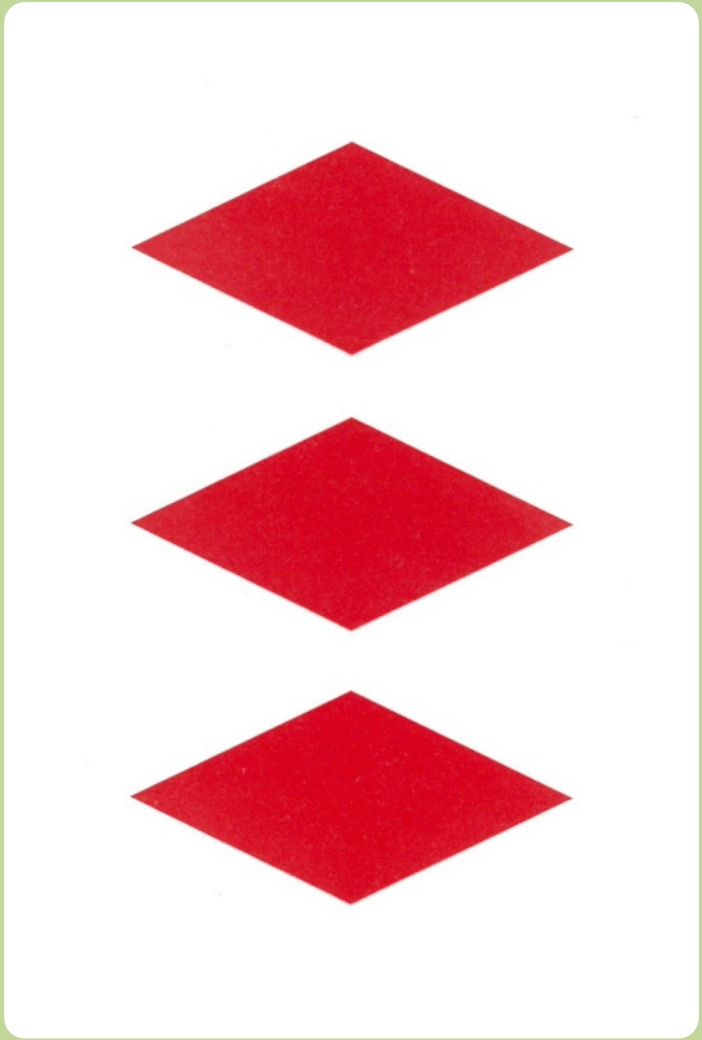
Three striped red ovals



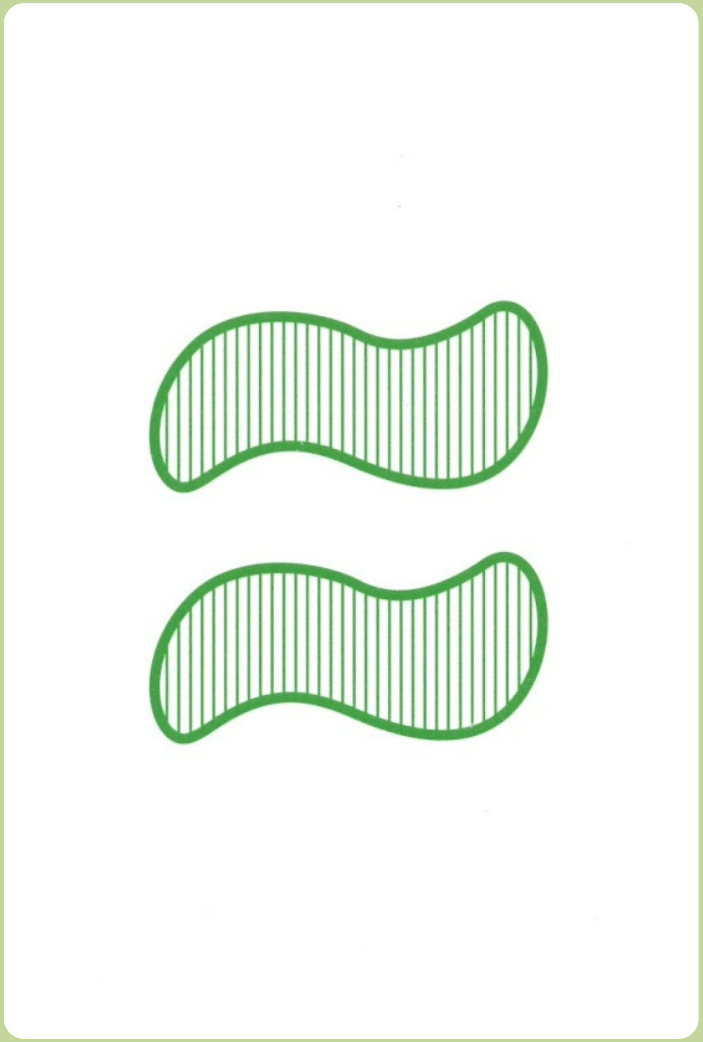
One plain purple diamond



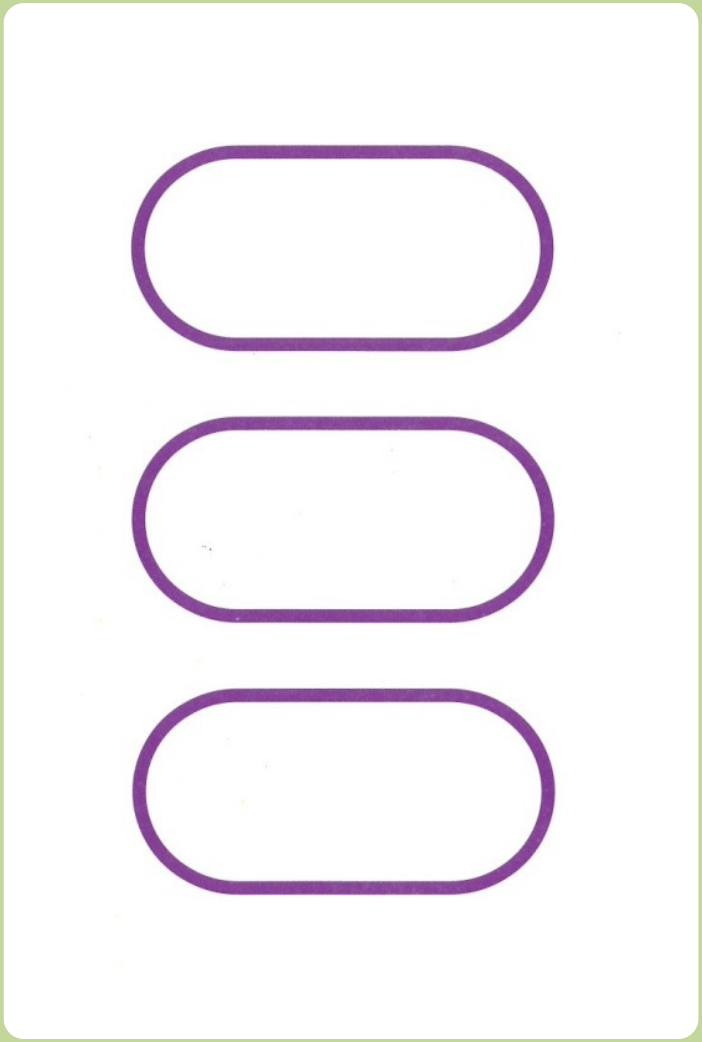
Two striped purple squiggles



Three solid red diamonds



Two striped green squiggles



Three plain purple ovals

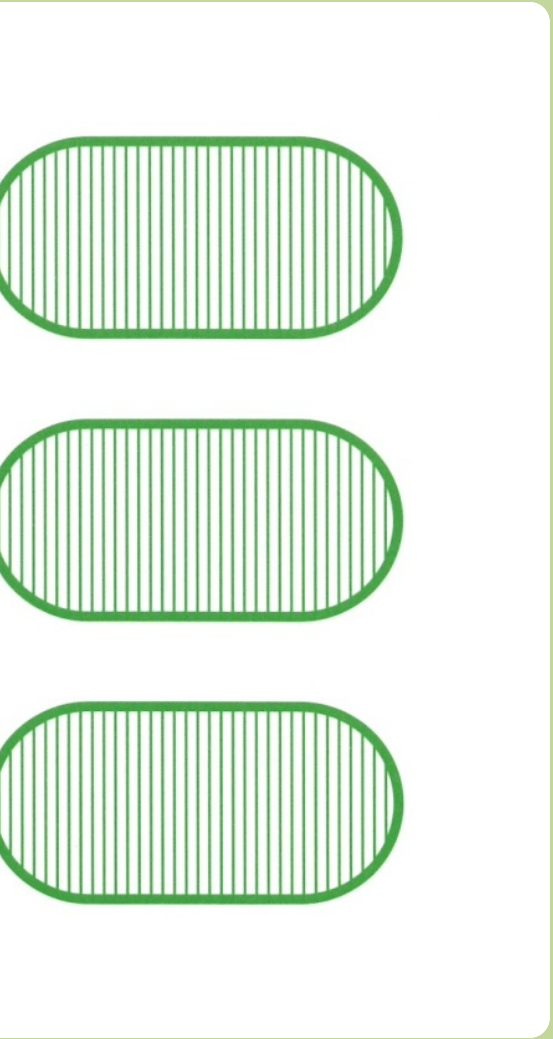
How many cards are in a SET deck?

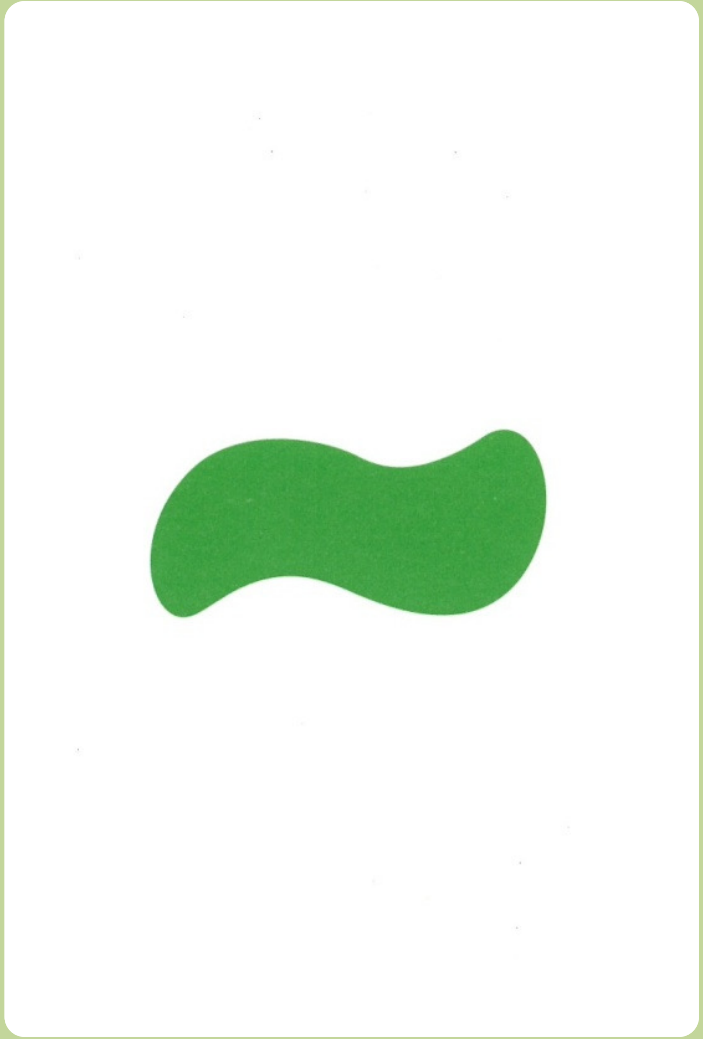
There are four characteristics on a Set card, number, shading, color and shape. For each characteristic there are three choices, so there are 3x3x3x3 or 81 cards in a Set deck.

Set is a collection of three cards suc
at for each characteristic, either all
e cards in the trio share the same
lue for that characteristic, or all of th
rds have different values for that
aracteristic.

or example, if the characteristic is
HAPE, then the three cards should all
ave the same shape or they should all
ave different shapes. The same is true
r the other three characteristics. So, to
etermine if a trio is a SET one performs
ur checks, one for each of the four
haracteristics. If the trio passes all four
these tests then it is a SET.

Is the following a Set?





ber: All different

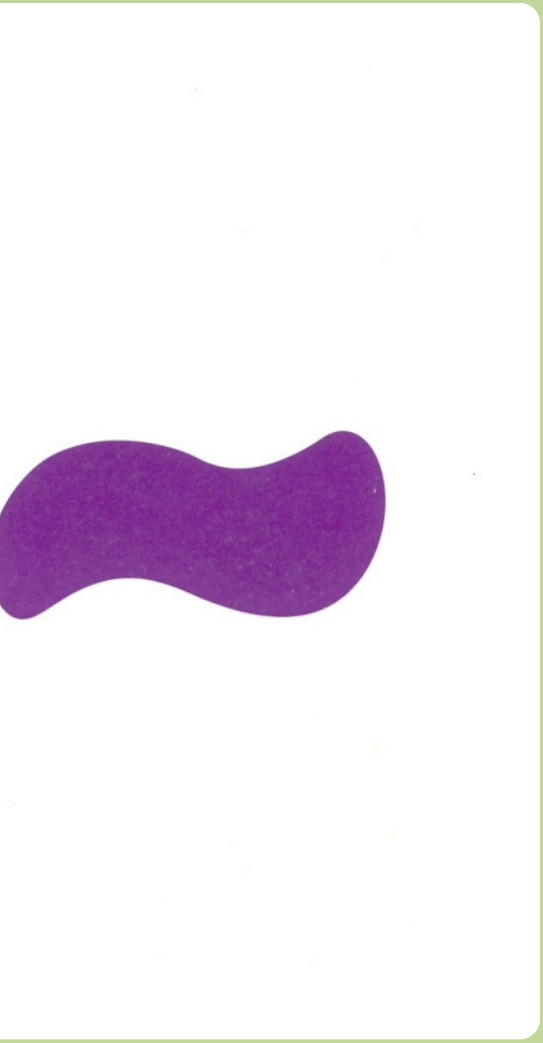
Shading: All different

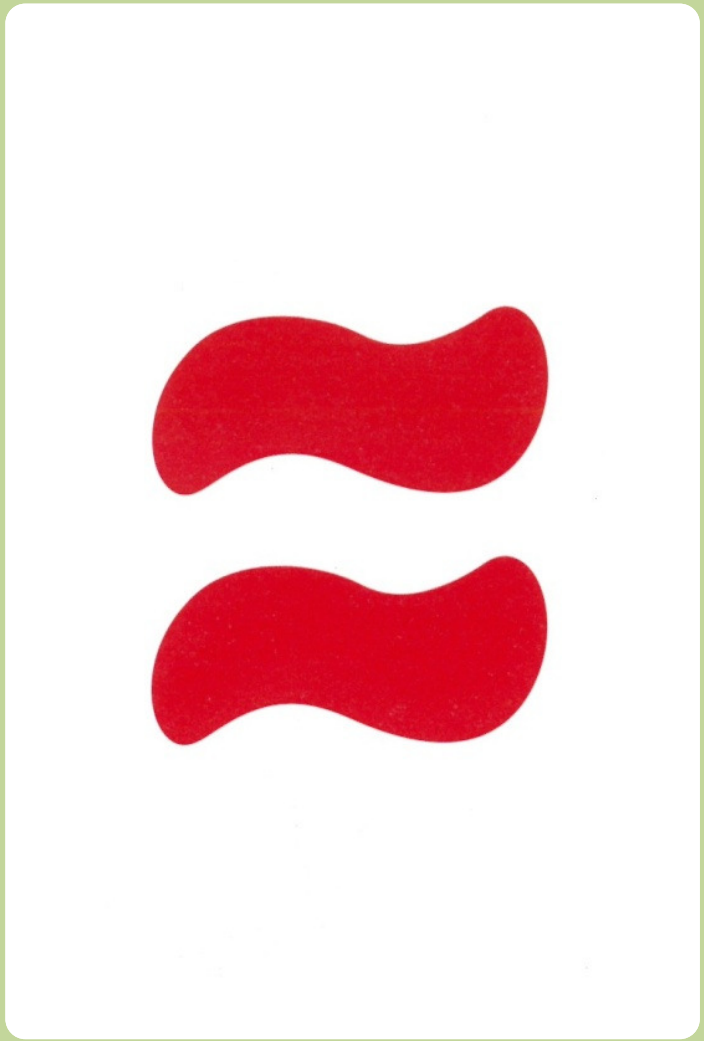
lor: All the same

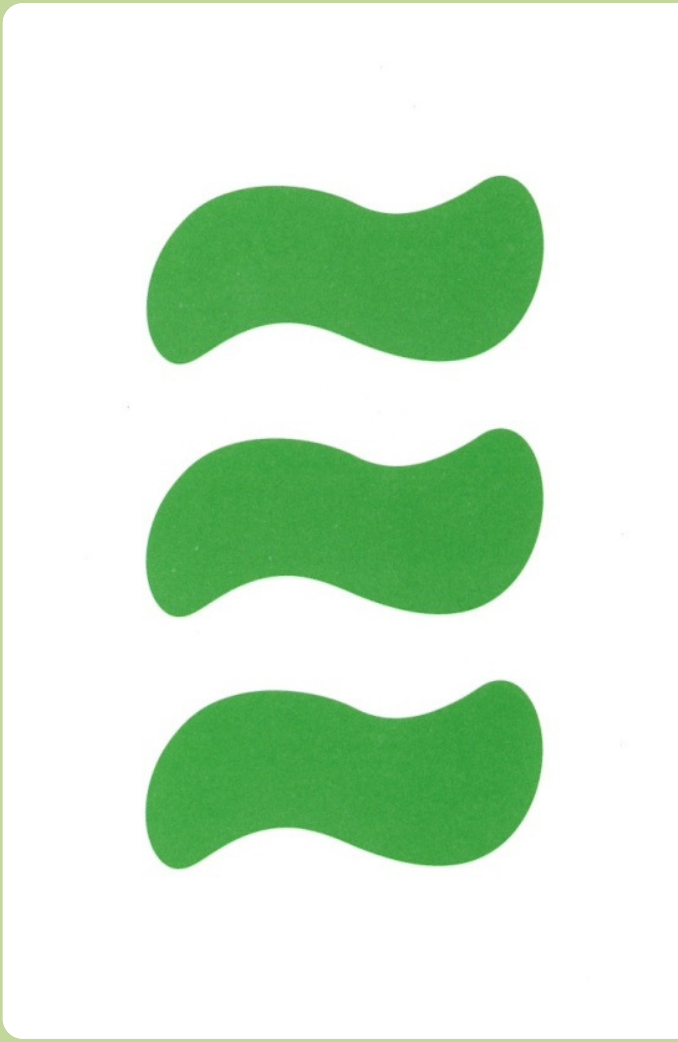
Shape: All different

Yes!

Is the following a Set?







ber: All different

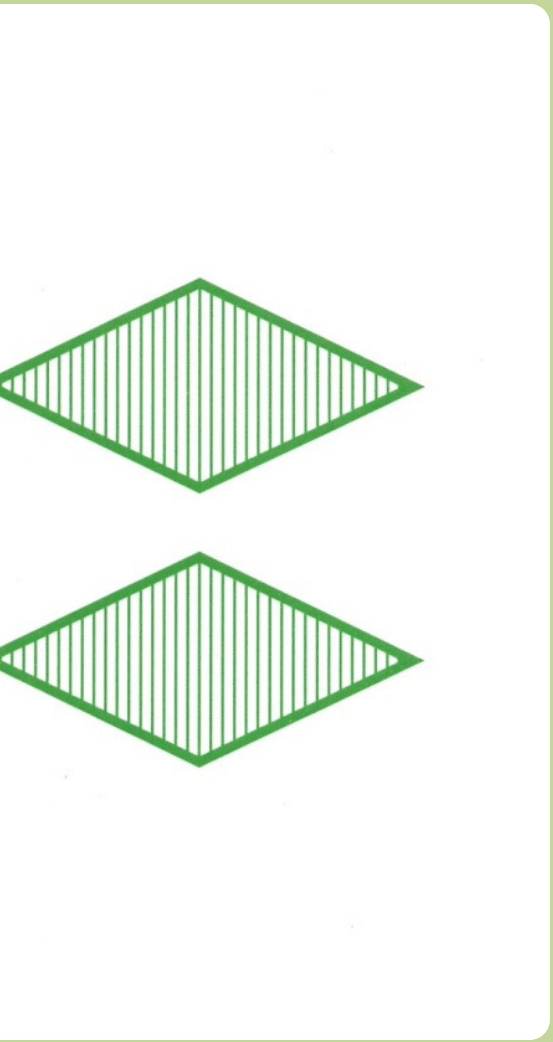
lor: All different

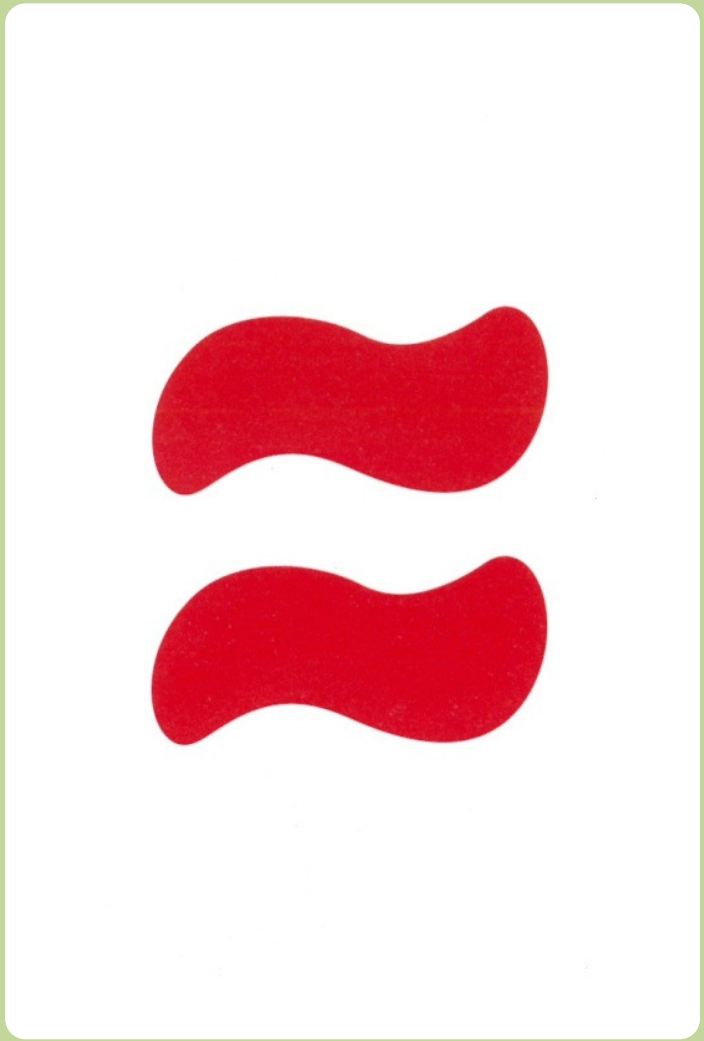
Shading: All the same

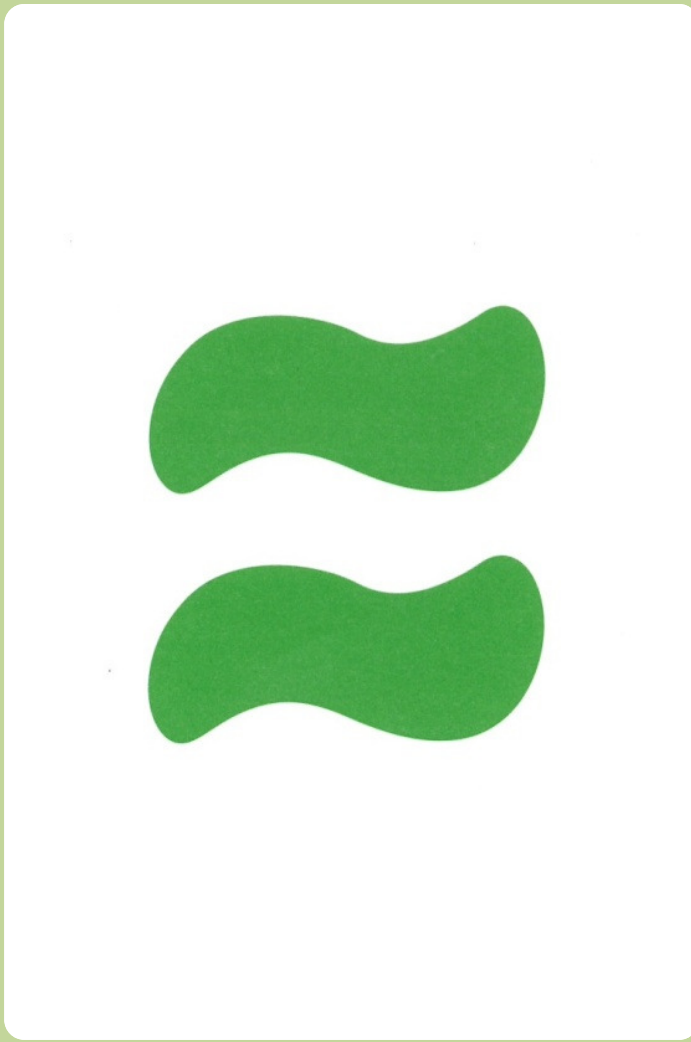
Shape: All the same

Yes!

Is the following a Set?





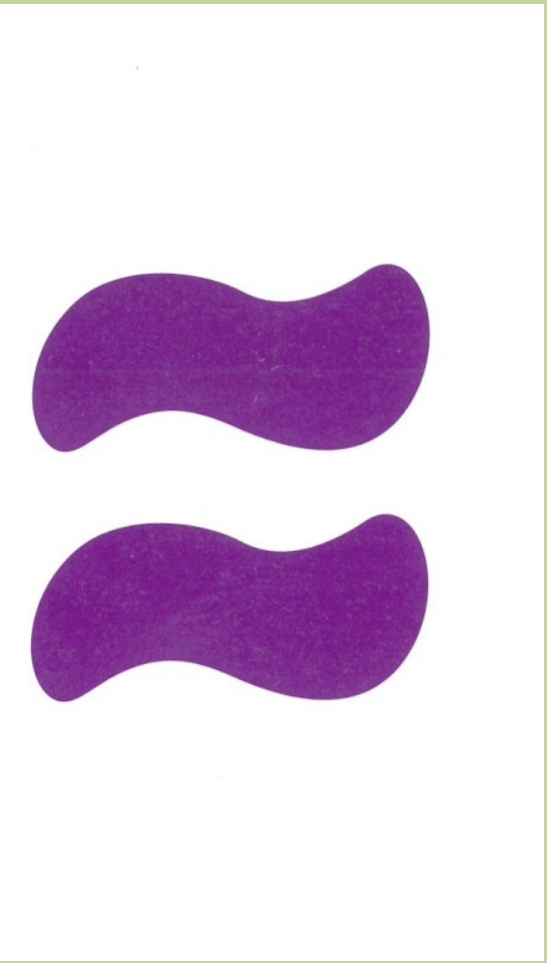


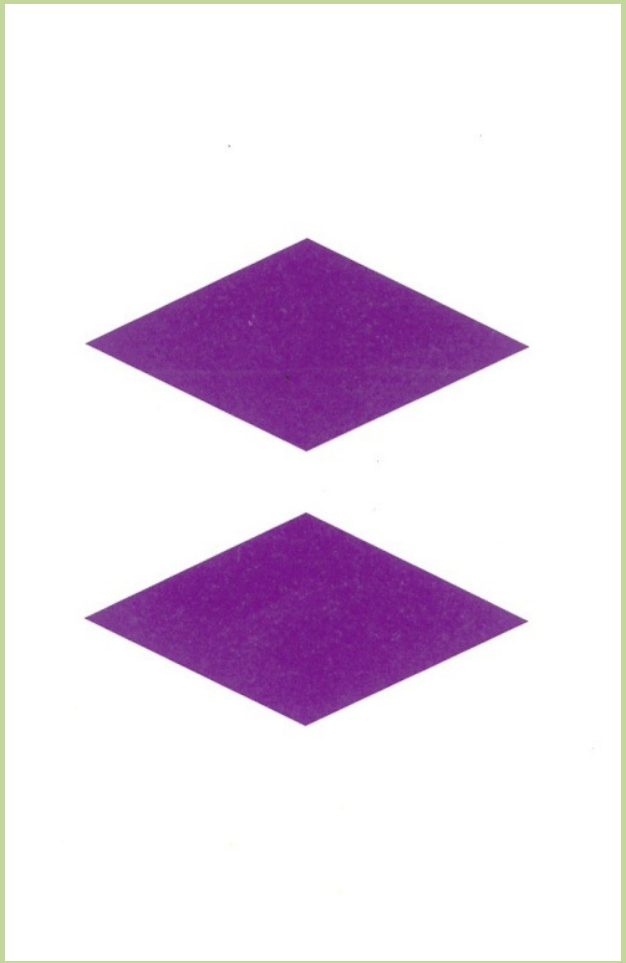
ber: All the same

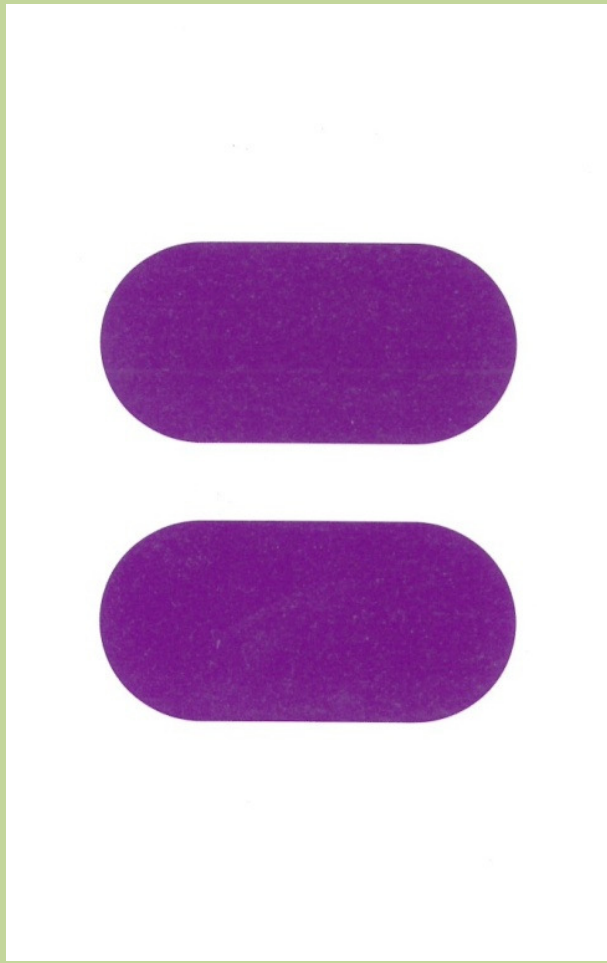
Shading: Not all the same and not all different

No

Is the following a Set?







ber: All the same

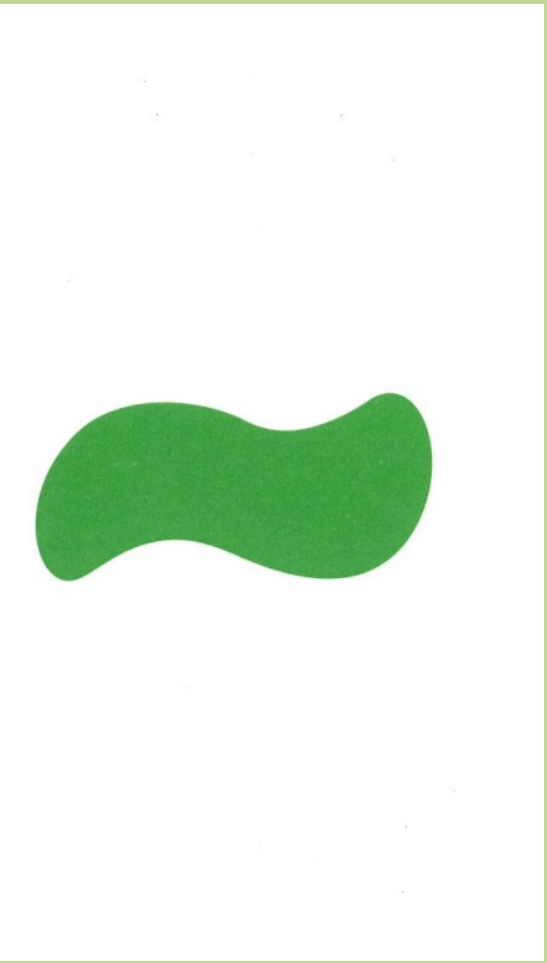
lor: All the same

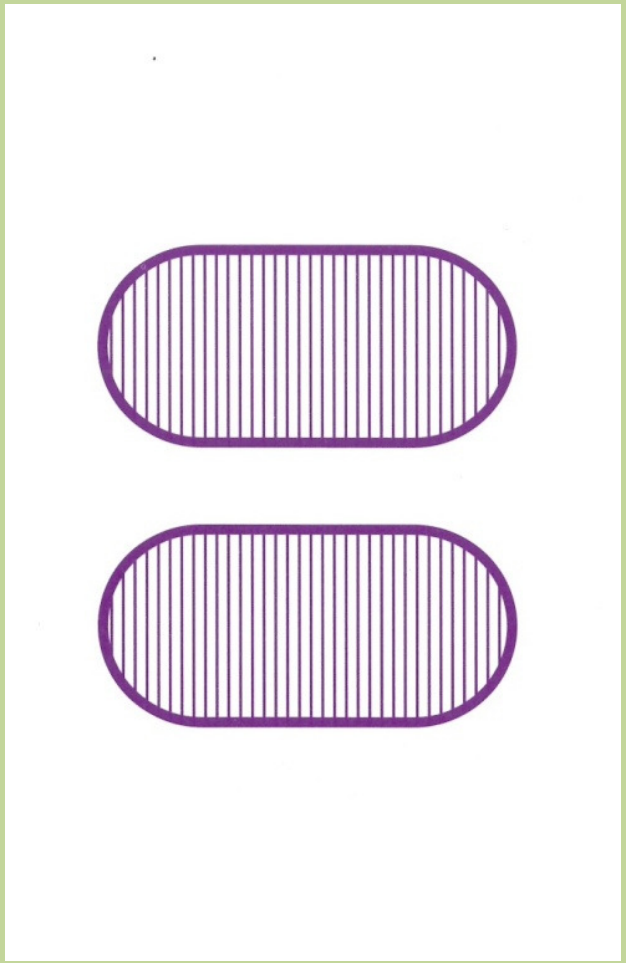
Shading: All the same

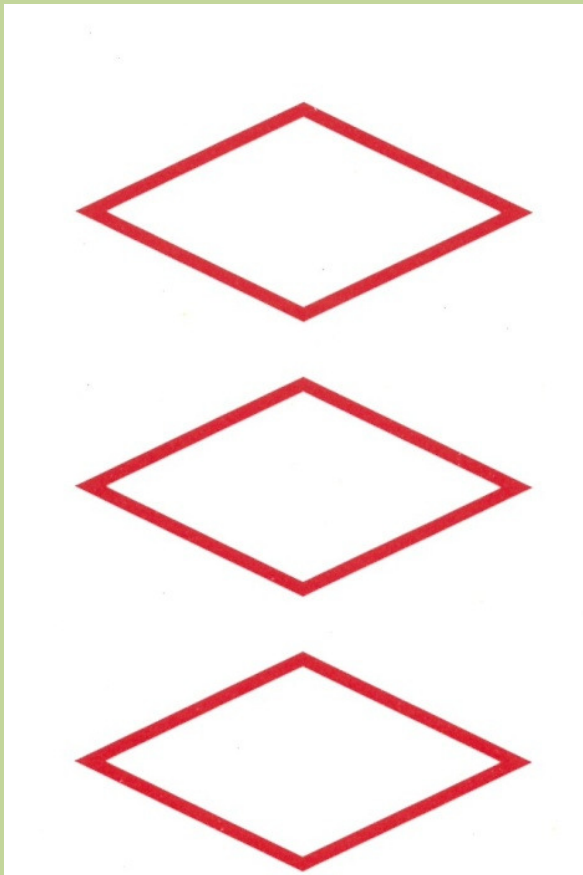
Shape: All different

Yes!

Is the following a Set?







ber: All different

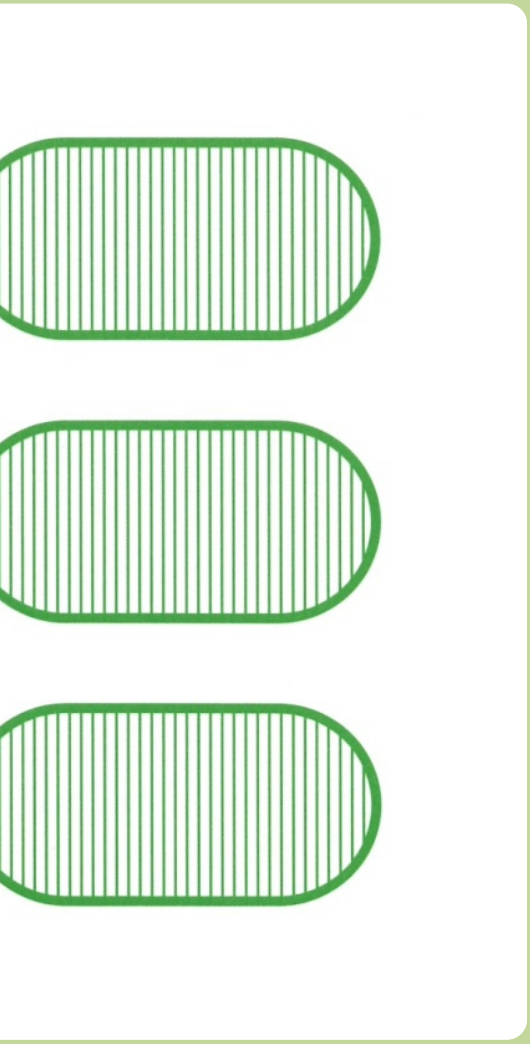
lor: All different

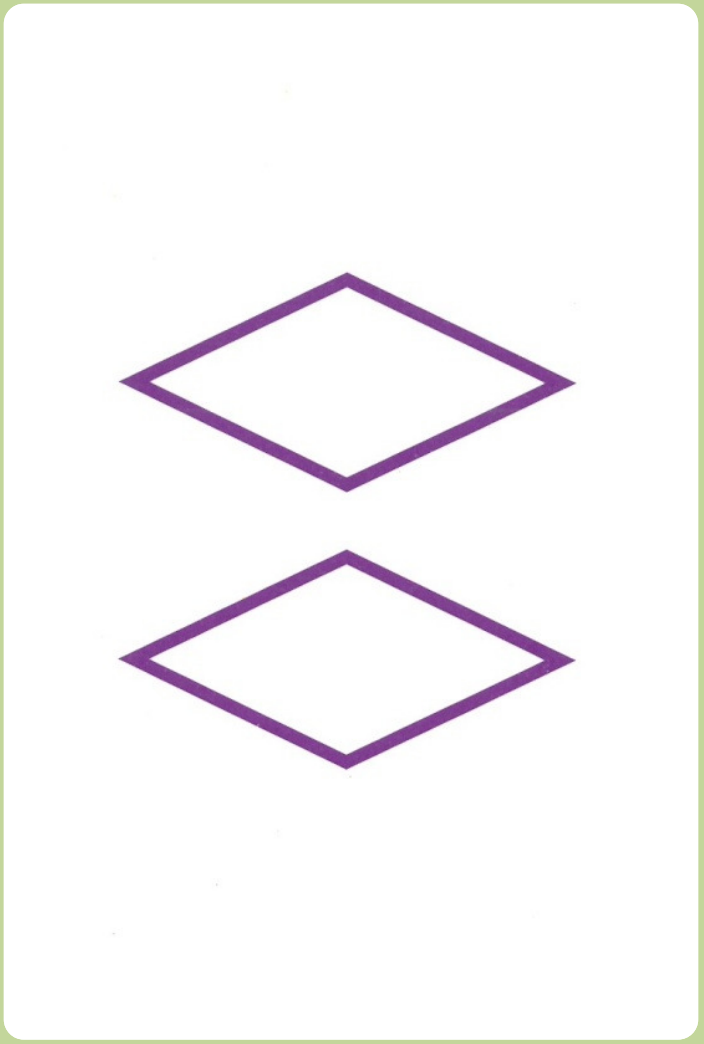
Shading: All different

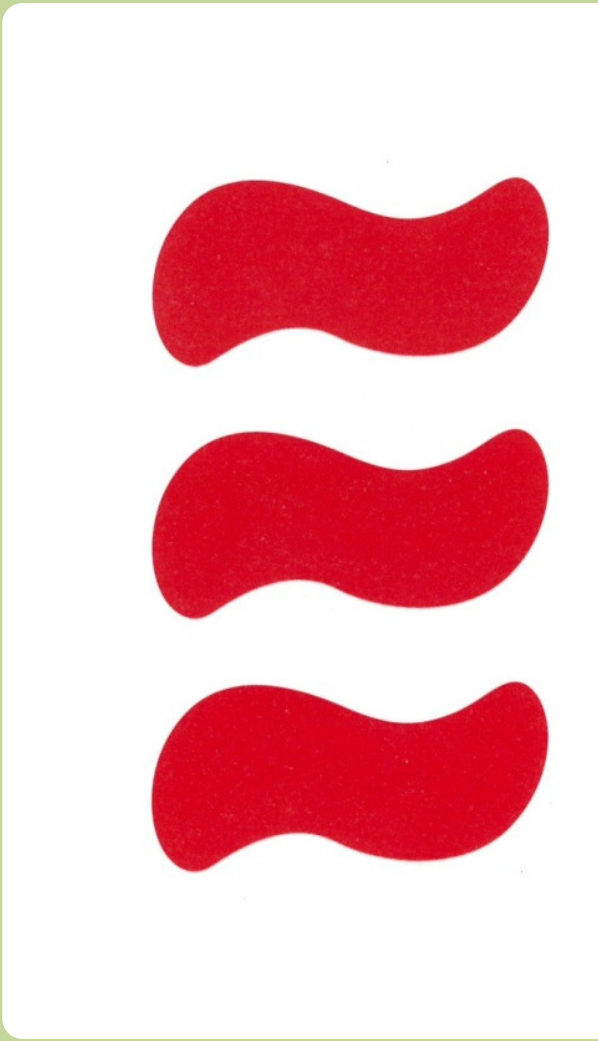
Shape: All different

Yes!

Is the following a set?







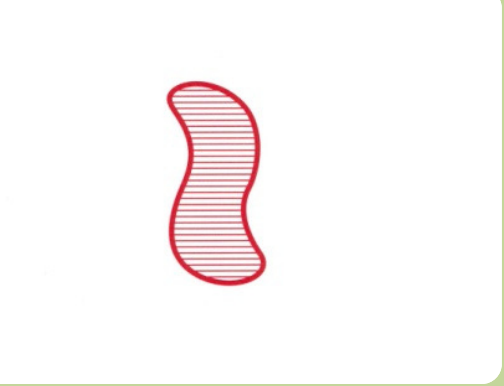
ber: Not the same and
ll different

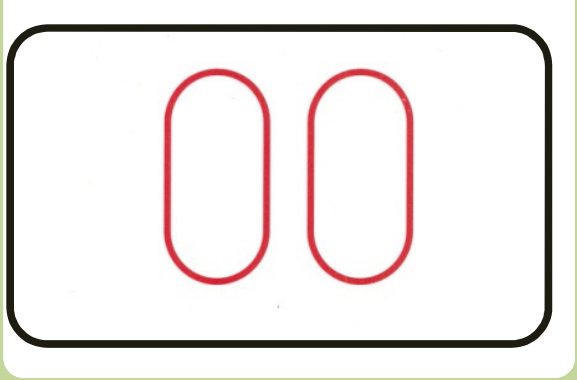
No!

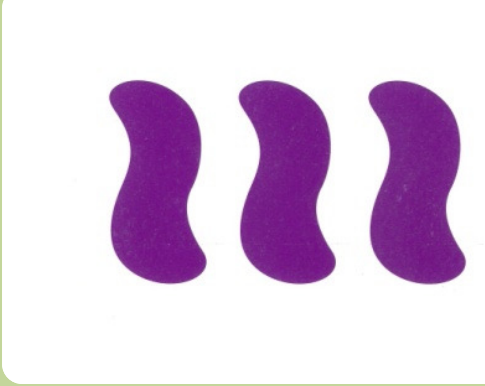
Playing SET

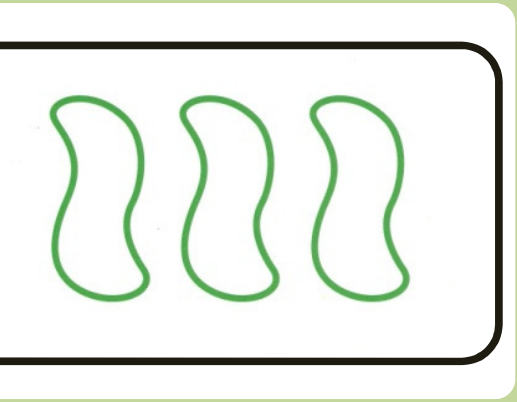
e game is played by dealing an array of 1
ds in the middle of a group of players. Th
t one to spot a SET in the array shouts
ET" and collects the three cards; then the
ds are replaced and play continues.

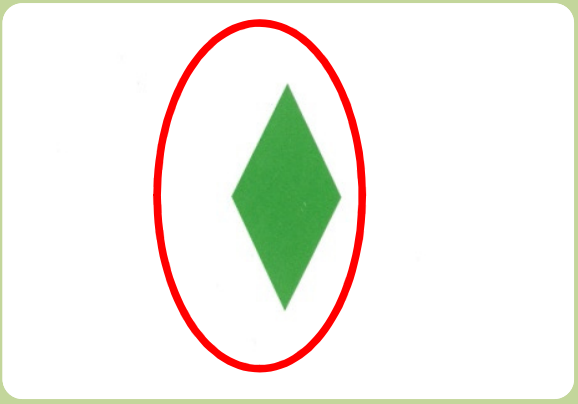
e person with the most SETs at the end is
winner.

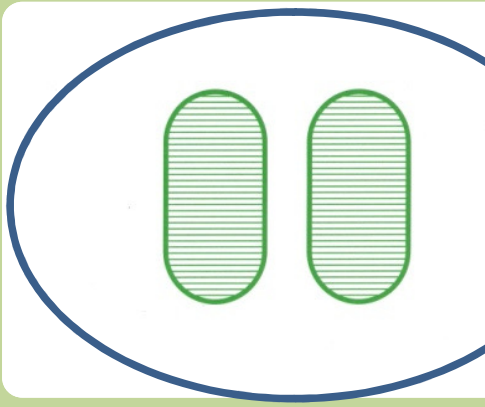


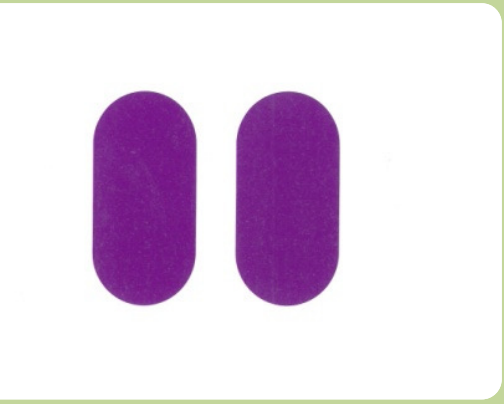


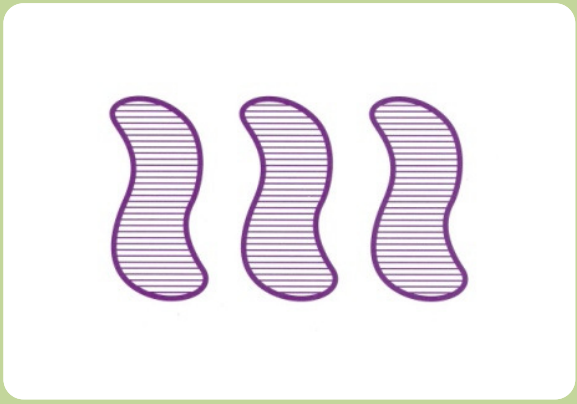


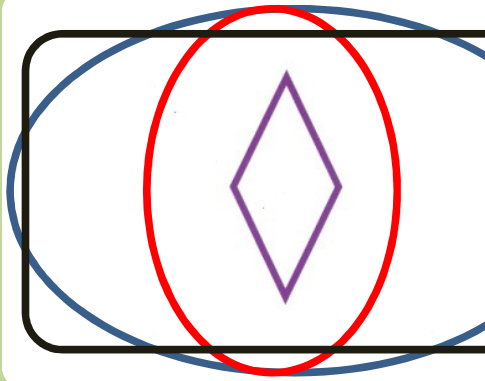


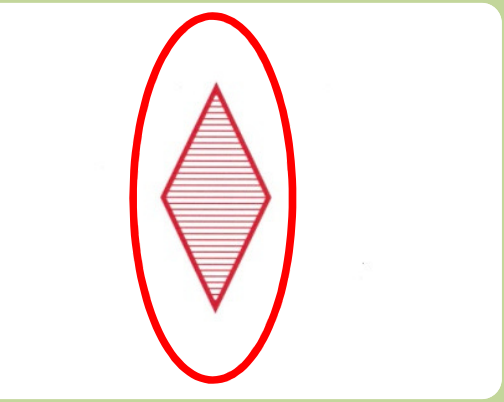


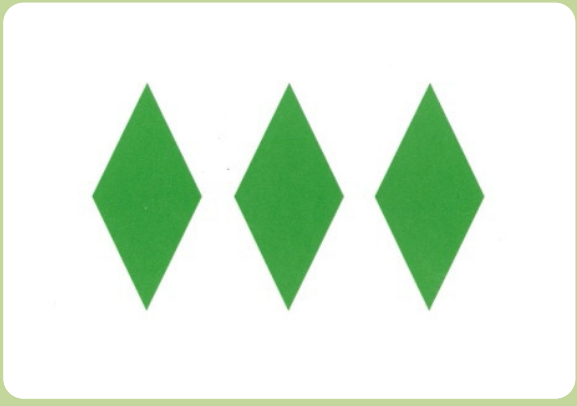


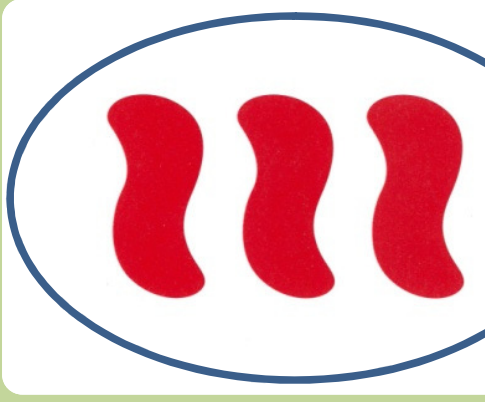






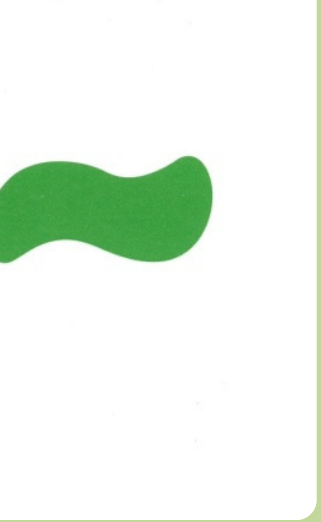


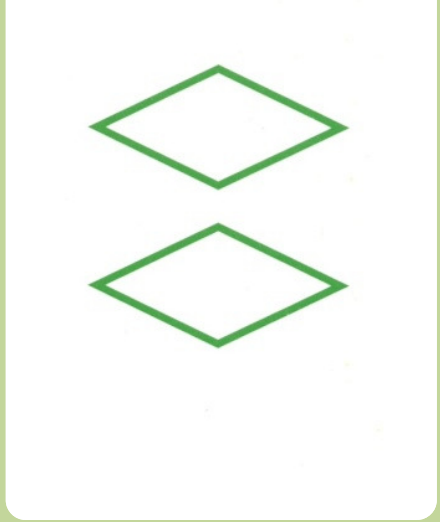


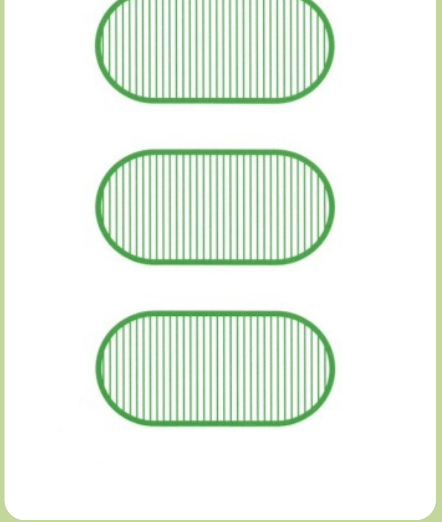


Let’s play Set!!

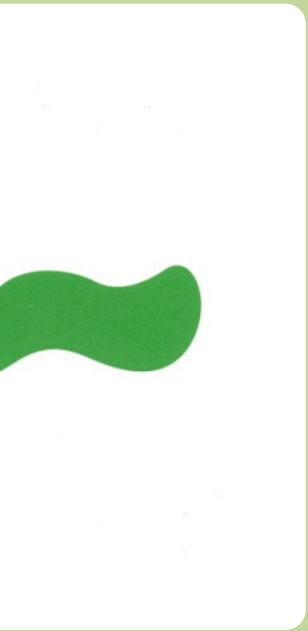
How many cards does it take to determine a Set?

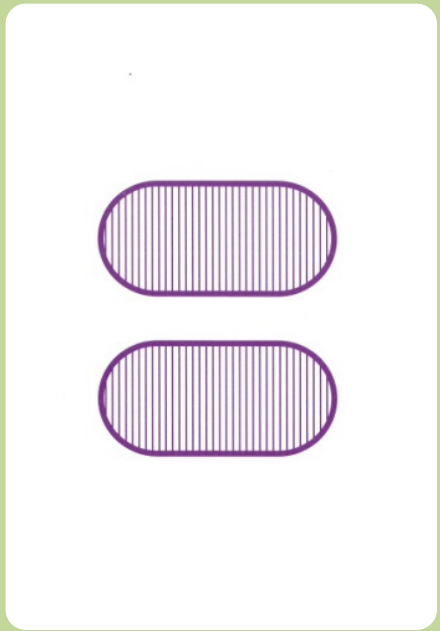


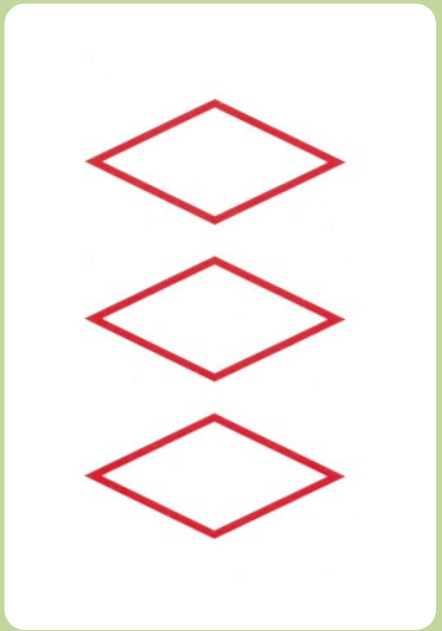


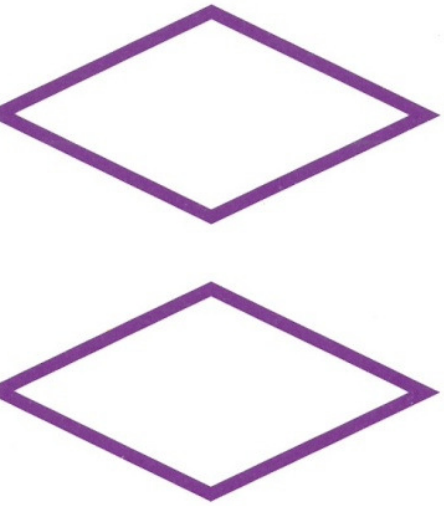


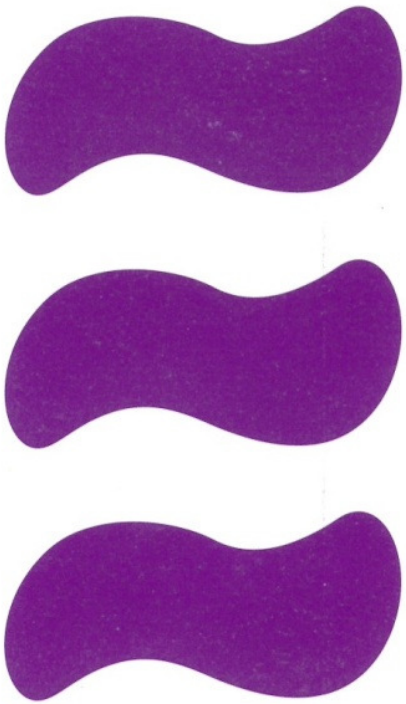
We can see that one card does not determine a Set. What about two cards?

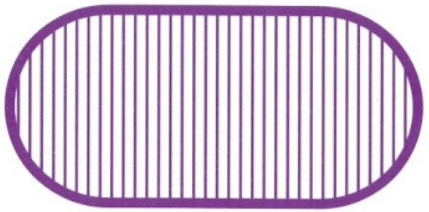










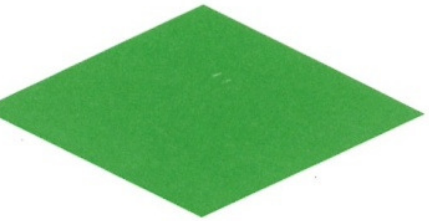


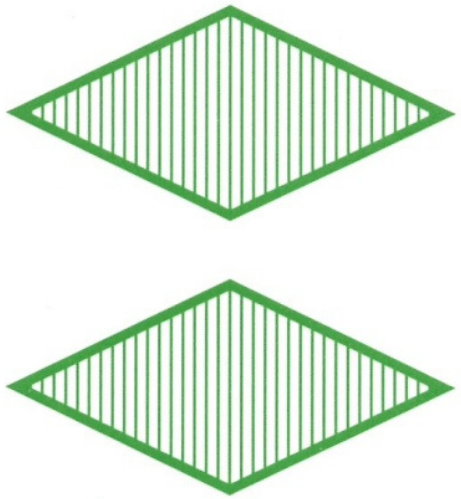
umber: different so third card must be one.

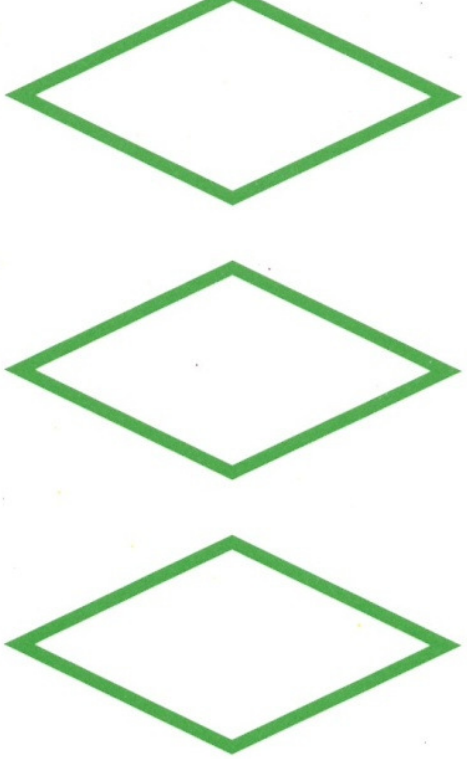
ading: different so third card must be striped.

lor: all the same so third card must be purple.

ape: different so third card must be oval.





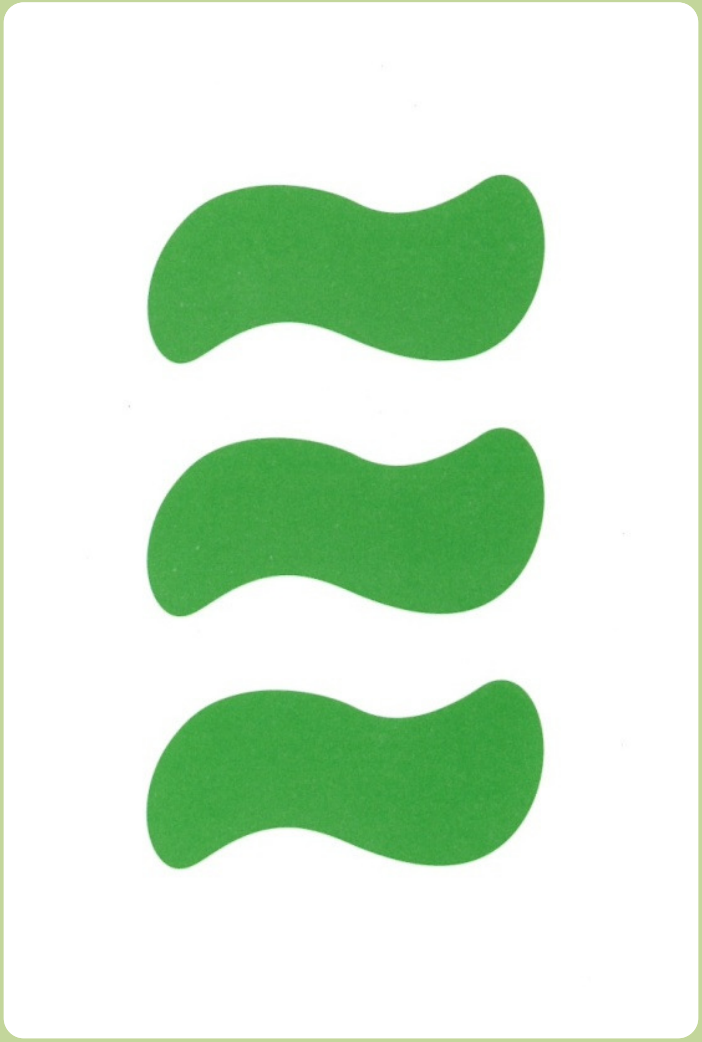


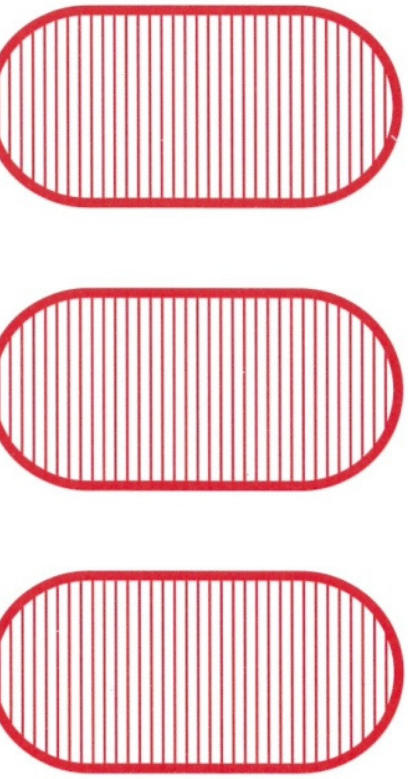
umber: different so third card must be three.

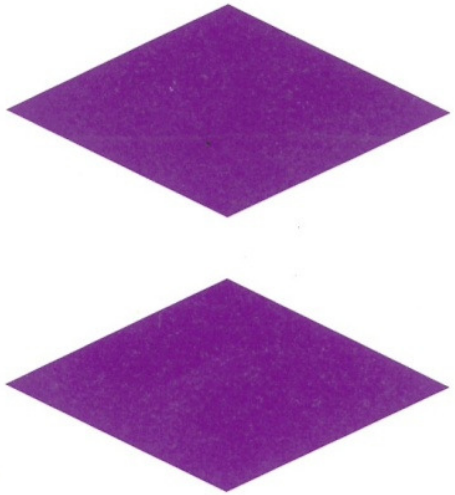
ading: different so third card must be plain.

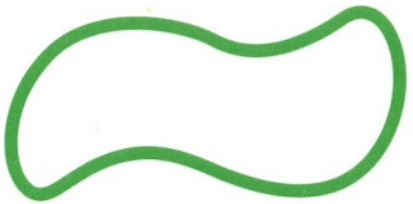
lor: all the same so third card must be green.

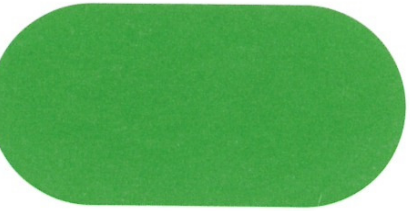
ape: all the same so third card must be diamond.











ERROR: undefined
OFFENDING COMMAND: !2

STACK: