

On-Sets: a vintage game of set theory

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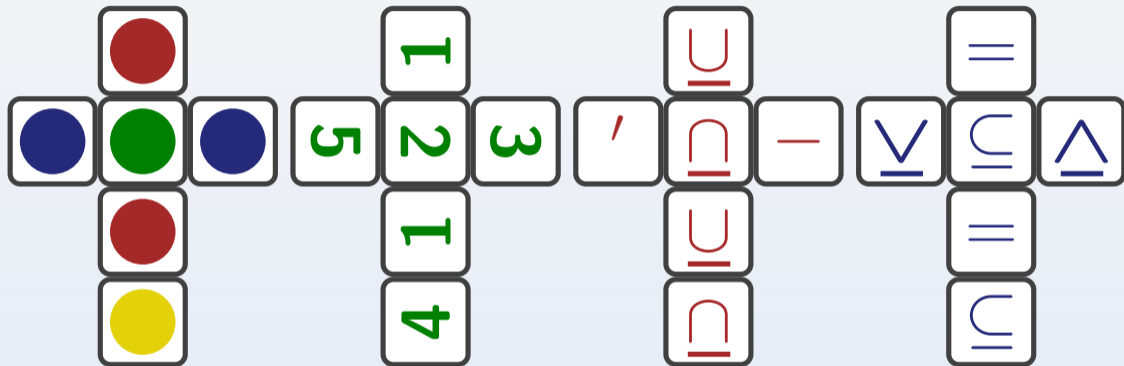
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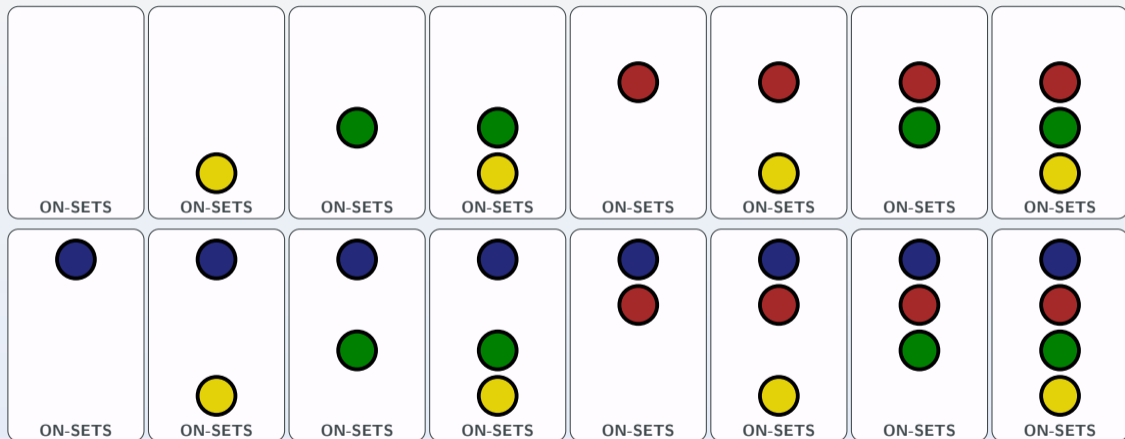
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19 November 2022

Dice







Cards










Set names

▶ : all cards with a yellow dot.










Set names

- ▶ : all cards with a yellow dot.
- ▶   : a yellow dot, a green dot, or both.













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- ▶   : both a yellow dot and a green dot.
- ▶  : cards that do not have a yellow dot.
- ▶   : cards that have a yellow dot but do not have a green dot.

Game board

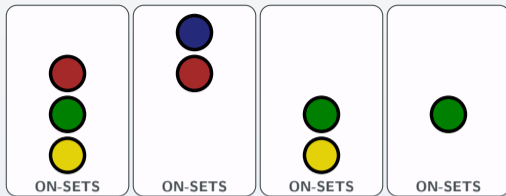
RESOURCES	FORBIDDEN	PERMITTED	REQUIRED
RESTRICTION <hr/>		EQUATION Num { } = <hr/> GOALS	

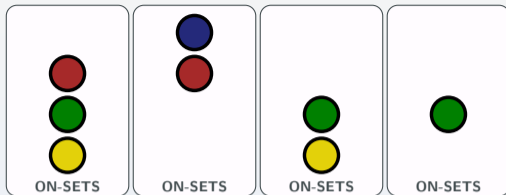
Goal

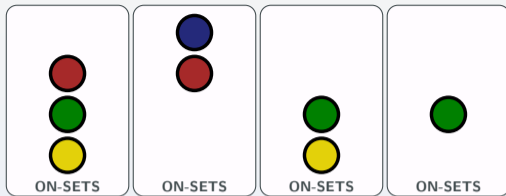
$\boxed{2} \boxed{3}$ means $2 + 3 = 5$;

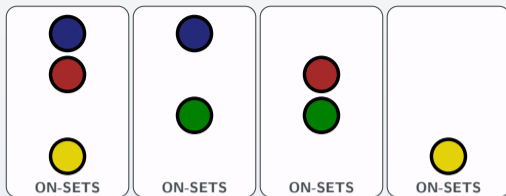
$\boxed{2}$
 $\boxed{3}$ means $2 \times 3 = 6$;

$\boxed{2} \boxed{\bar{2}}$ means $2 + (-2) = 0$;









RESOURCES

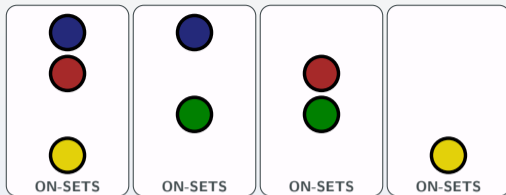
A blue panel titled "RESOURCES" contains icons for a blue circle, a yellow circle, a green circle, two U-shaped icons, and a green "1" in a white box.

Pick out just the first card?

EQUATION

$$\text{Num} \left\{ \begin{array}{l} \text{ } \end{array} \right\} = \text{GOALS} \left[1 \right]$$

The equation shows a blue box with "EQUATION" at the top. On the left, "Num" is written above a large curly brace. On the right, "GOALS" is written below a horizontal line, followed by a white box containing a green "1".



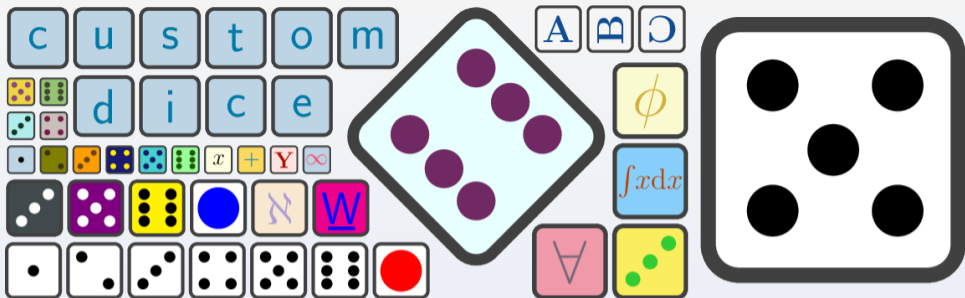
RESOURCES

Pick out just the first card?









EQUATION

$$\text{Num} \left\{ \text{yellow circle}, \text{red U}, \text{blue circle} \right\} = \text{GOALS } \boxed{1}$$





► I wrote a dice package for \LaTeX : `customdice`

- `\dice{2}` 
- `\textdice{G}` 
- `\textdice{\(\aleph\)}` 
- `\dice[yellow,blue]{5}` 
- `\bigdotdice[white,blue]` 
- `\small\dice{4}` 
- `\Huge\dice{5}` 
- `IN L\dice{3}NE IN L`  `NE`