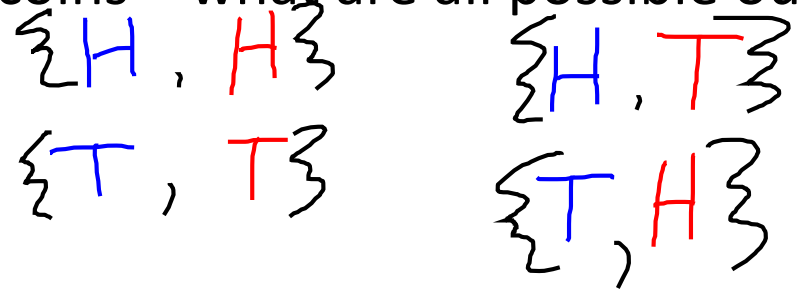
Monday, April 29, 2019

- Warm-up
  - If I flip two coins – what are all possible outcomes?



- Go over tests
- Sample Space & Frequency Tables

Objectives

Content: I will create and use **sample spaces** to organize **probability** and **outcomes**.

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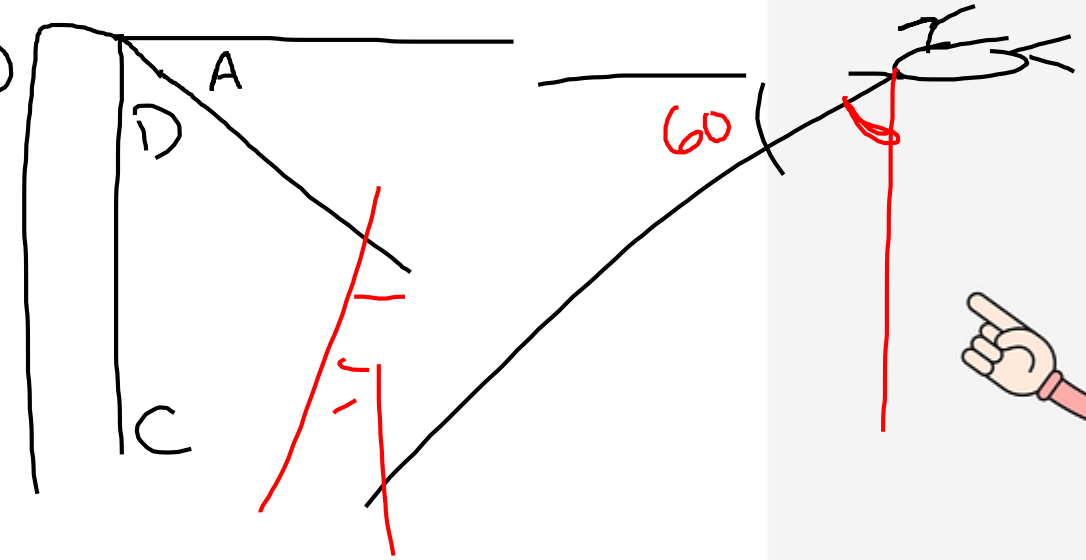
Talk About Tests

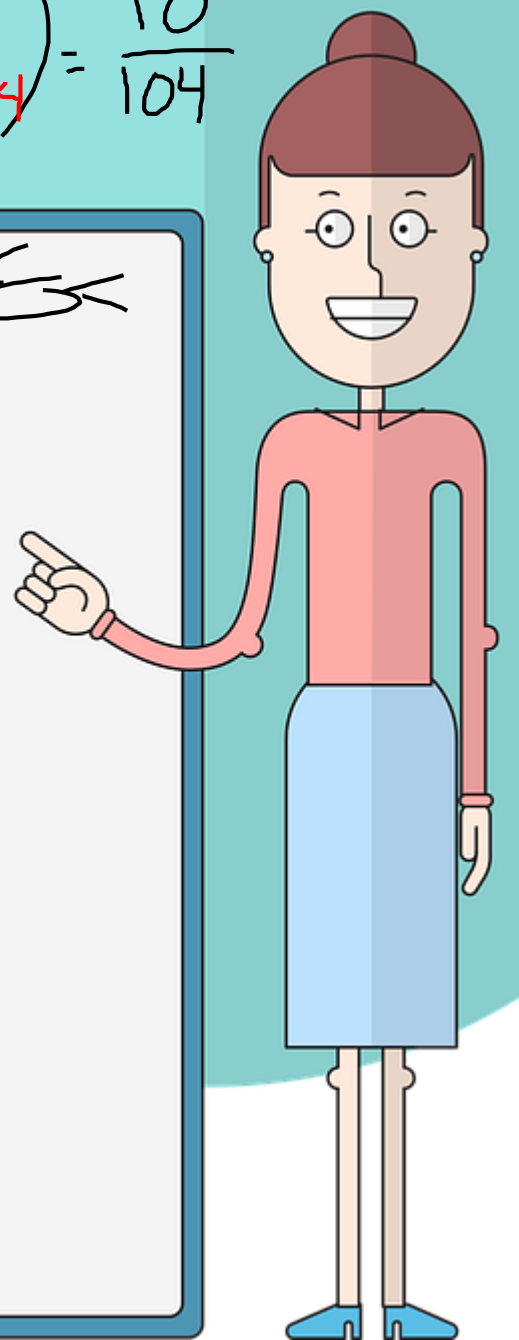
#10

$$\left(\frac{\cancel{2}^{1}}{13}\right)\cdot\left(\frac{5}{\cancel{8}4}\right)=\frac{10}{104}$$

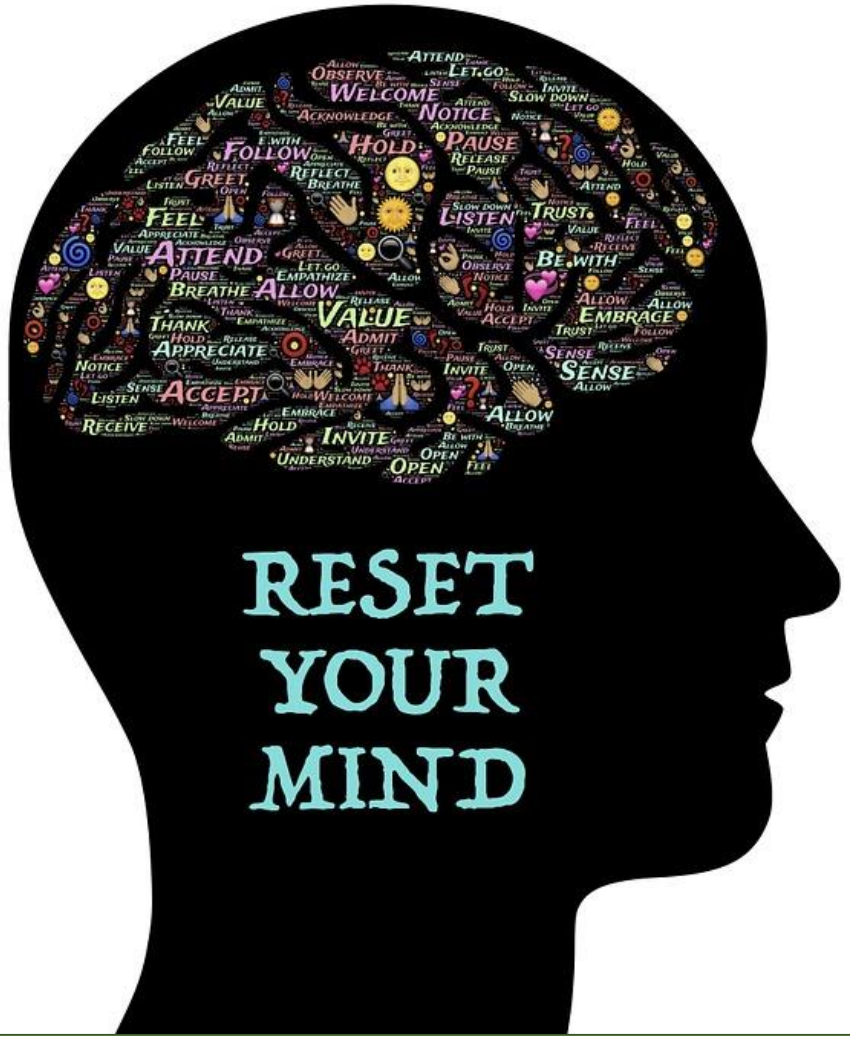
$\frac{5}{52}$

MC #5





Brain Break



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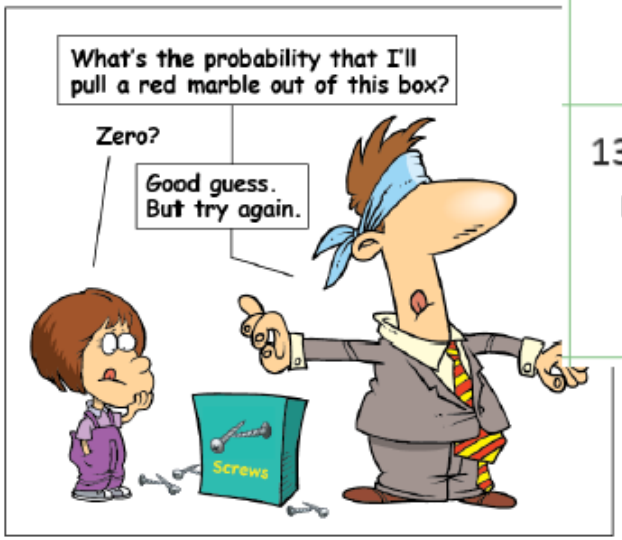
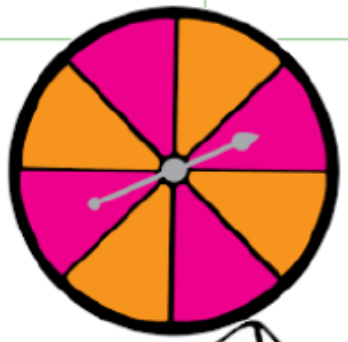
BlockMath 2

Unit 7

Probability

29 Go over Tests Basic Probability Dice Sample Space	30 Probability Stations	1 2-way Tables AND/OR Conditionals	2 2-way Tables Independence & Mutually Exclusive	3 Probability Formulas Indep & M.E.
6 Practice **Quiz**	7 Simulations	8 Probability Application (games)	9 Review for Test	10 **Unit 7 Test**
13 NO SCHOOL Graduation	14 Review for Finals	15 30 min Review for Finals	16 **Final Exam**	17 Send-Off for Summer





I never lose... either I win or I learn.

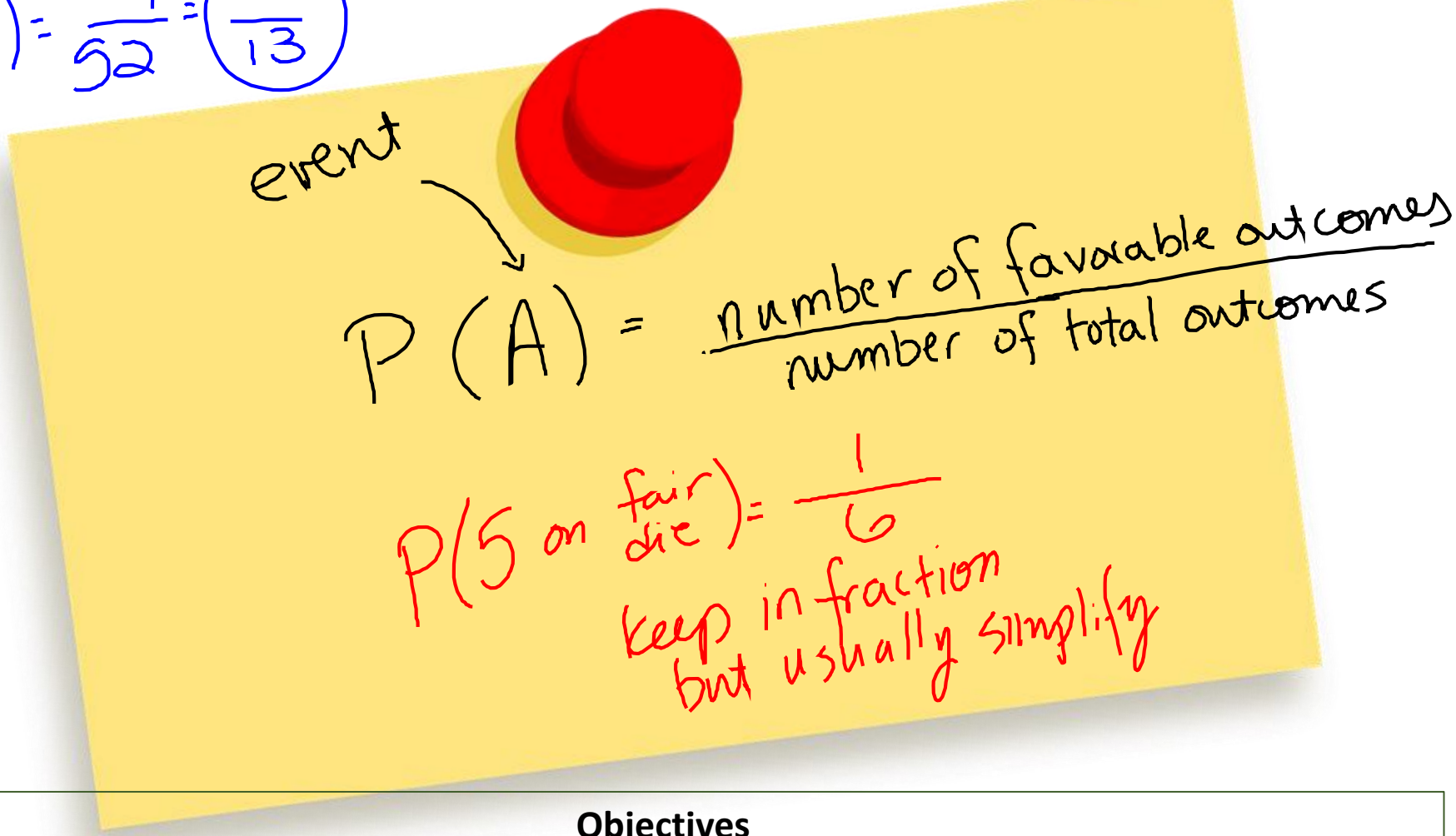
Compound Probability
https://bit.ly/1aHju6f

Table Probability
https://bit.ly/2KyLjk0

Mutually Exclusive
https://bit.ly/2w8TnET

Reminder: How to Calculate Probability

$P(K) = \frac{4}{52} = \frac{1}{13}$



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Some Definitions

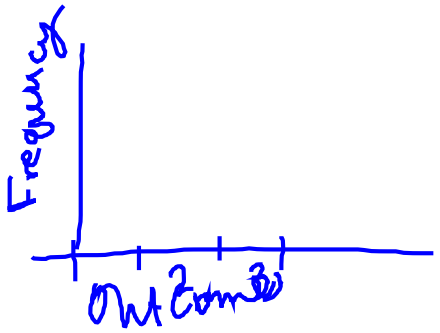
- Sample Space – all outcomes listed ex) 2 coins {H,H} {T,T} {H,T} {T,H}

  Fair Die → 1, 2, 3, 4, 5, 6

- Frequency Table - organized list of outcomes & how many times they happen

- Histogram - Graph of Frequency table

  Quantitative



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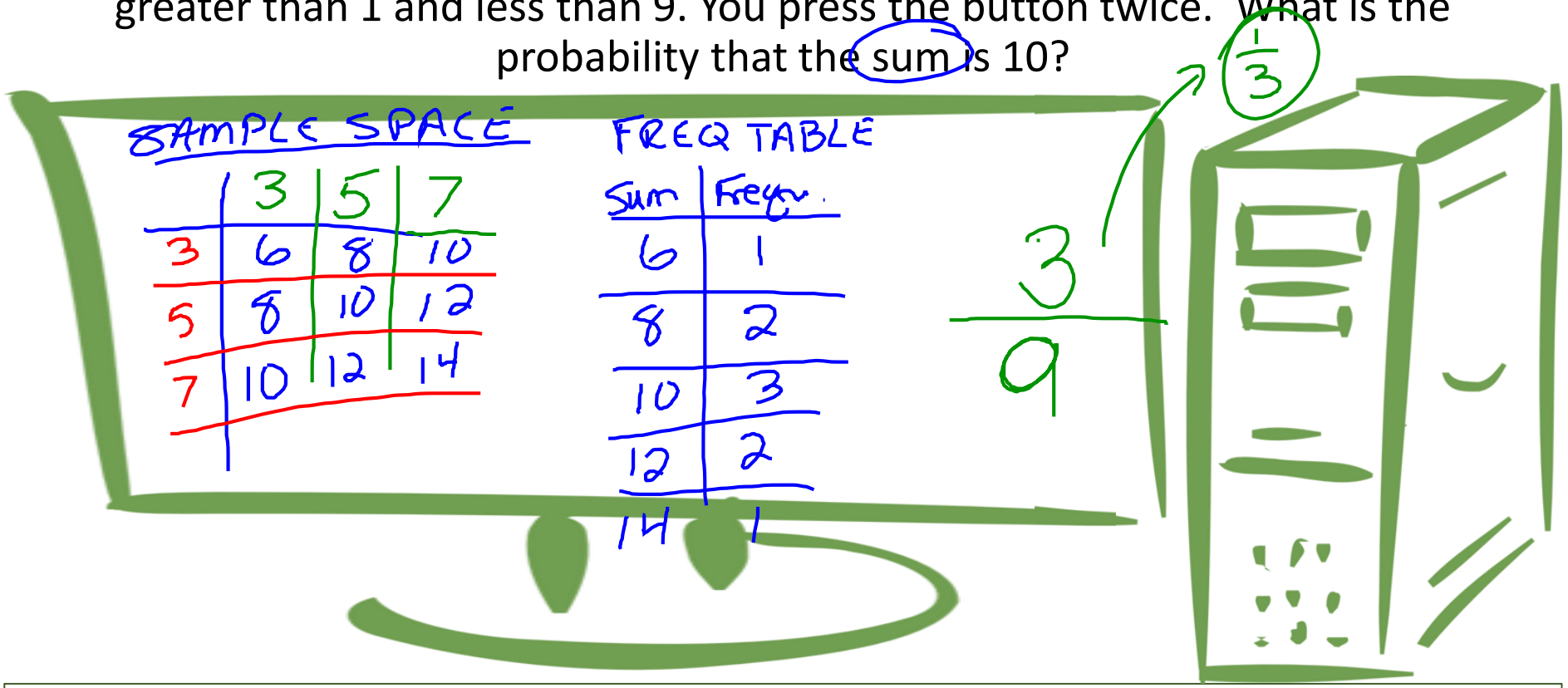
Using Sample Space

When a button is pressed, a computer program outputs a random odd number greater than 1 and less than 9. You press the button twice. What is the probability that the sum is 10?



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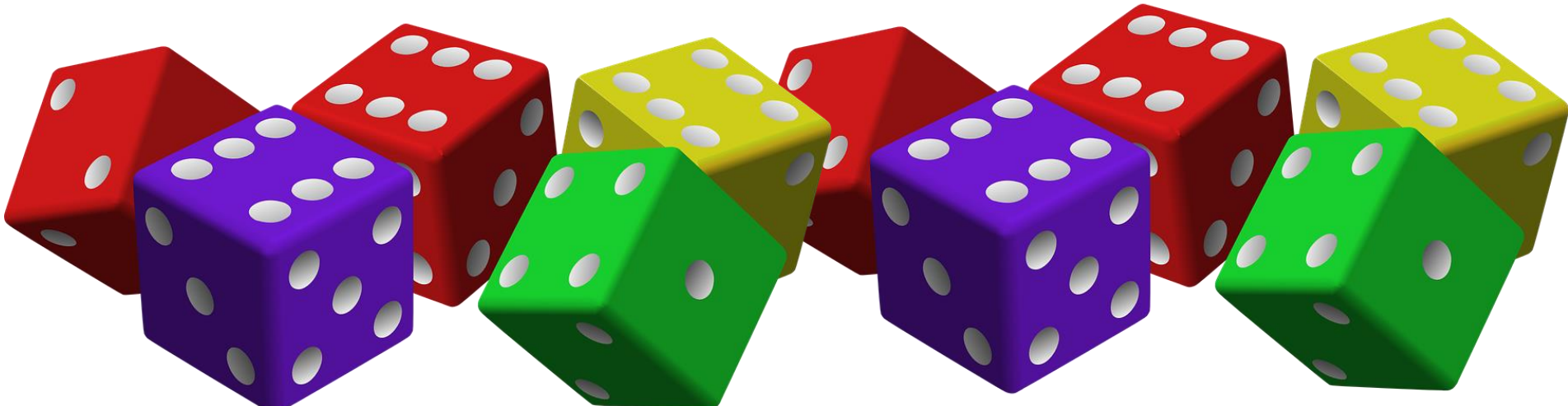
Dice Trivia

pips



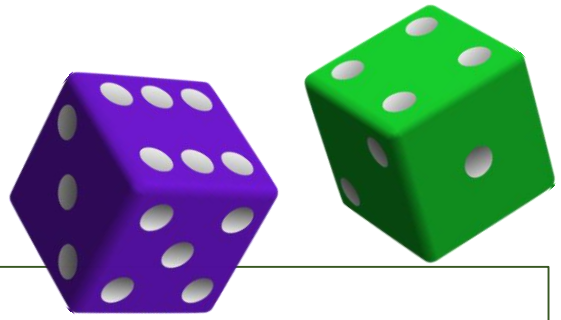
Sample Space for 2 dice

	1	2	3	4	5	6
1	2	1, 2				
2	2, 1 3					
3						
4						
5						
6						

Sum of

P(doubles) =

$\frac{6}{36} = \frac{1}{6}$



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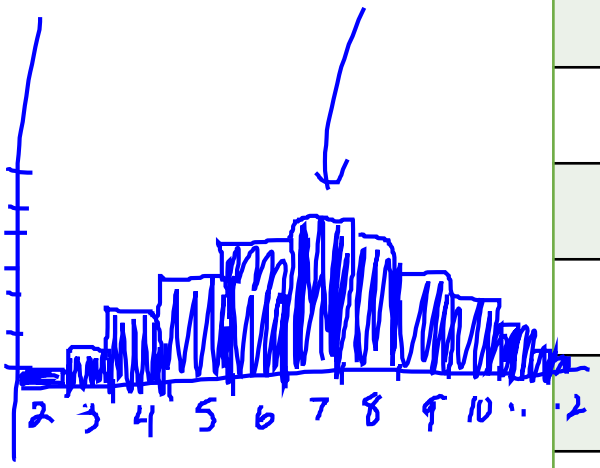
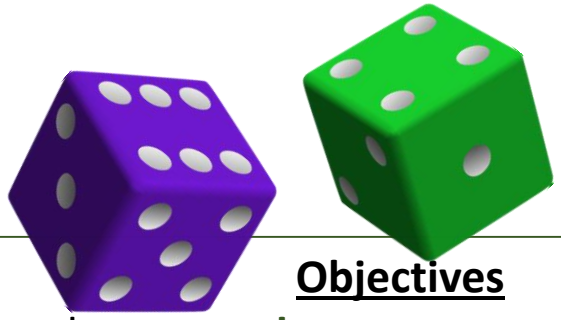
Frequency Table for sum of 2 dice

	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12



Sum	Frequency
2	1
3	2
4	3
5	4
6	5
7	6
8	5
9	4
10	3
11	2
12	1



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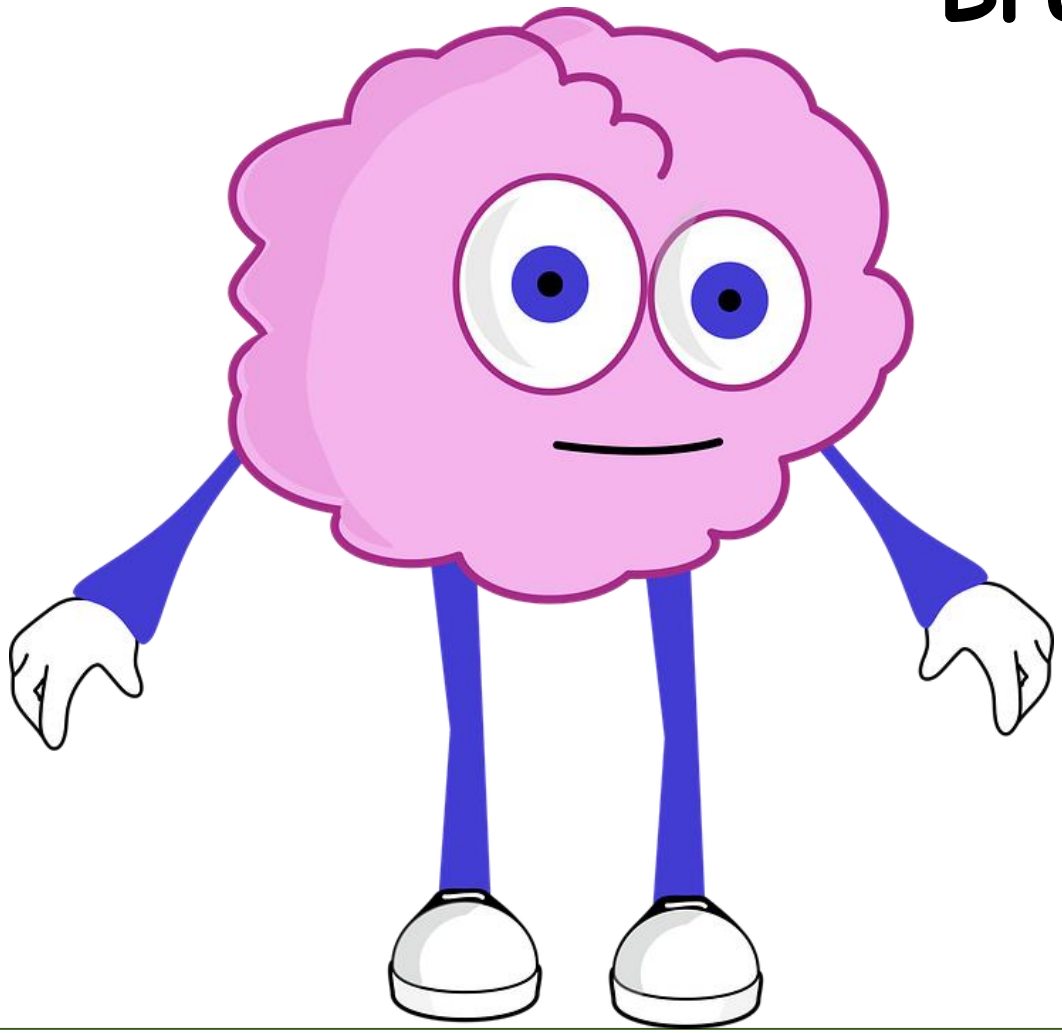

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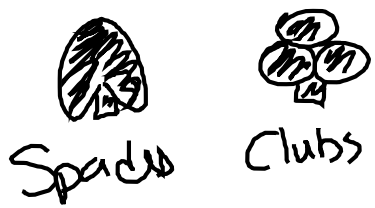
Card Trivia

not part of the 52 — Joker

52 cards in a deck

Ace
Counted cards
2-10



suits

"Face Cards" = Queen, Jack, King

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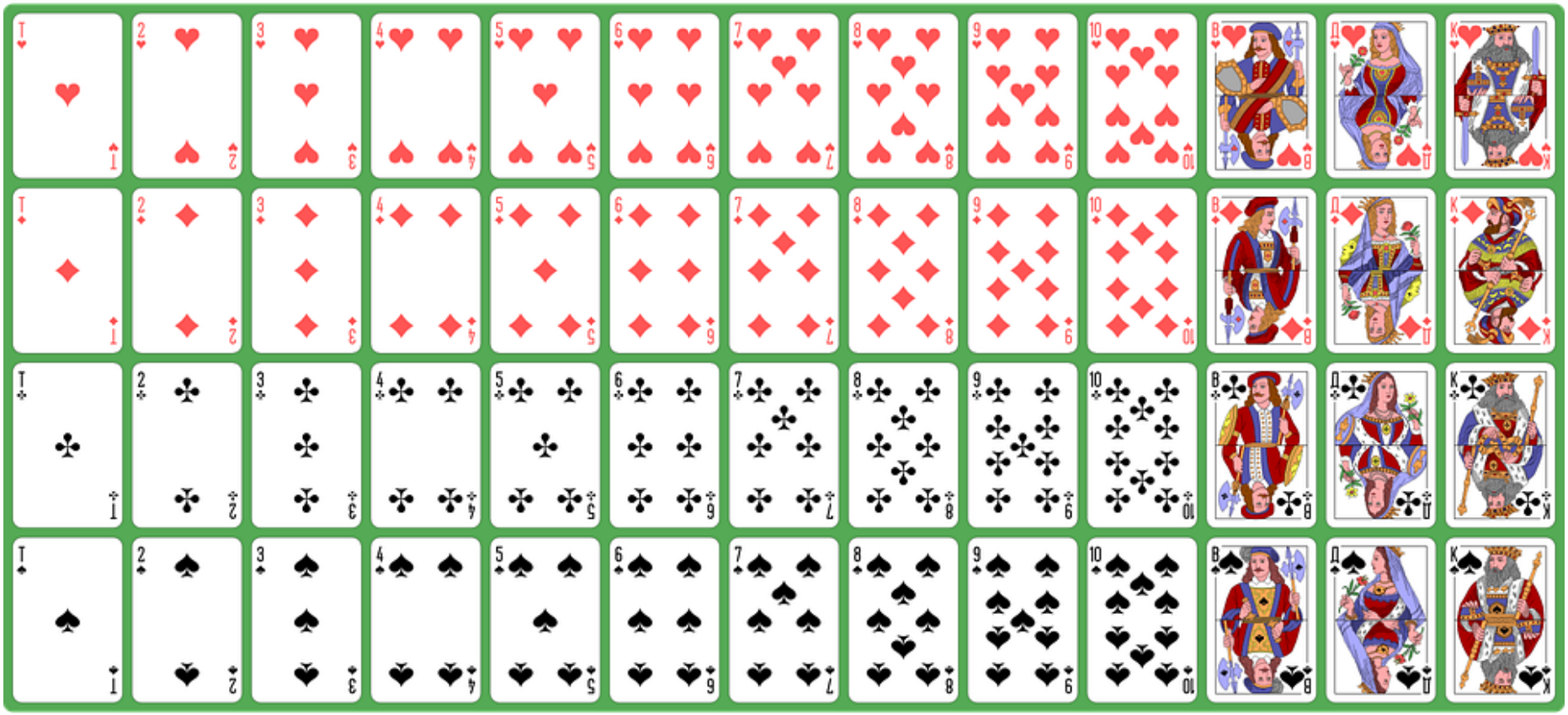
Sample Space for cards



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Card Probabilities

- A card is drawn from a well shuffled pack of 52 cards.
  - P(2 of spades) = $\frac{1}{52}$
  - P(jack) = $\frac{4}{52} = \frac{1}{13}$
  - P(red king) = $\frac{2}{52} = \frac{1}{26}$
  - P(diamond) = $\frac{13}{52}$
  - P(king or queen) = $\frac{8}{52} = \frac{4}{26} = \frac{2}{13}$
  - P(non-face card) = $\frac{52}{52} - \frac{12}{52} = \frac{40}{52} = \frac{10}{13}$
  - P(black card) = $\frac{26}{52} = \frac{1}{2}$
  - P(non-ace) $\frac{48}{52} = \frac{12}{13}$

13 cards in each suit

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Exit Slip

A fair coin is tossed four times. What is the probability of getting at least one 'Tail'? [With calculator]

(A) 1/16

(B) 1/4

(C) 3/4

(D) 15/16

Show your sample space

Count the total outcomes

Count the favorable outcomes

Write your probability

Choose your answer

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