Probability

Simple Probability?

- How do you calculate simple probability?
  - $\frac{Number\ of\ Correct\ Outcomes}{Number\ of\ Possible\ Outcomes}$

Dice

- How many possible numbers are there on 1 dice?
- What are the chances that a 2 will come out?
- How many possible numbers are there on 2 dice?
- What are the chances that the sum will be 5?

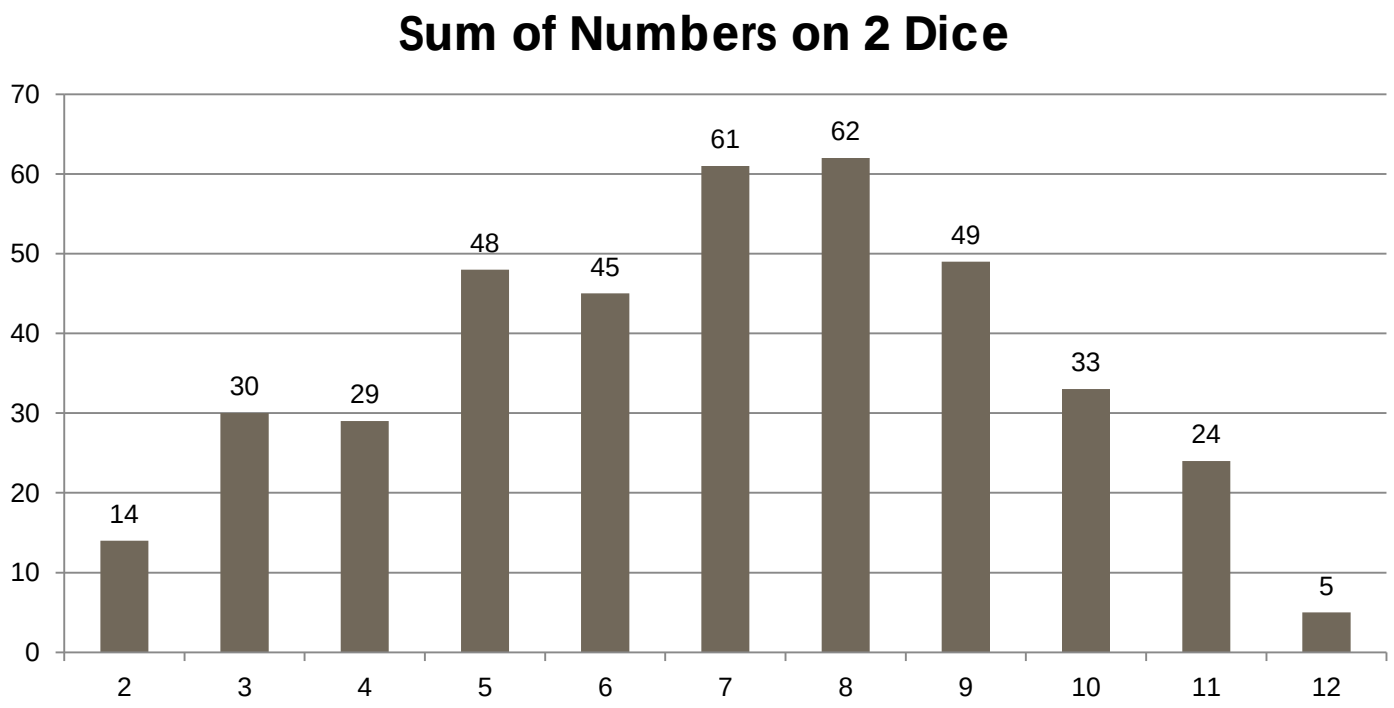
Dice

- Calculate the expected Probability for each of the values:
  - The sum of the 2 dice (2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12)
  - The sum is ODD or Even

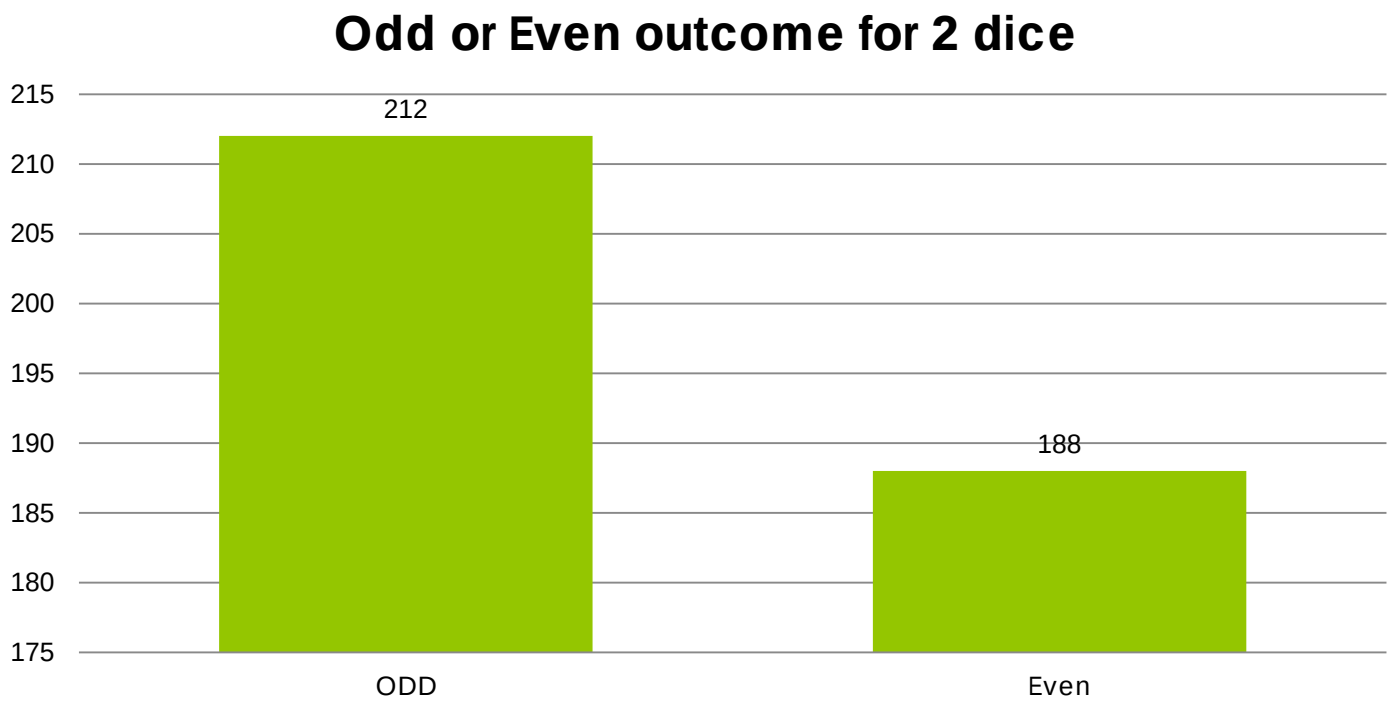
Dice

- Is the data consistent with these?

Dice 1


Sum of Numbers on 2 Dice
70
60
50
40
30
20
10
0
14
30
29
48
45
61
62
49
33
24
5
2
3
4
5
6
7
8
9
10
11
12

Dice 2


Odd or Even outcome for 2 dice
215
210
205
200
195
190
185
180
175
212
188
ODD
Even

Cards

- How many possible numbers are there on 1 card?
- What are the chances that a 2 will come out?
- How many possible numbers are there on 2 cards?
- What are the chances that the sum will be 5?

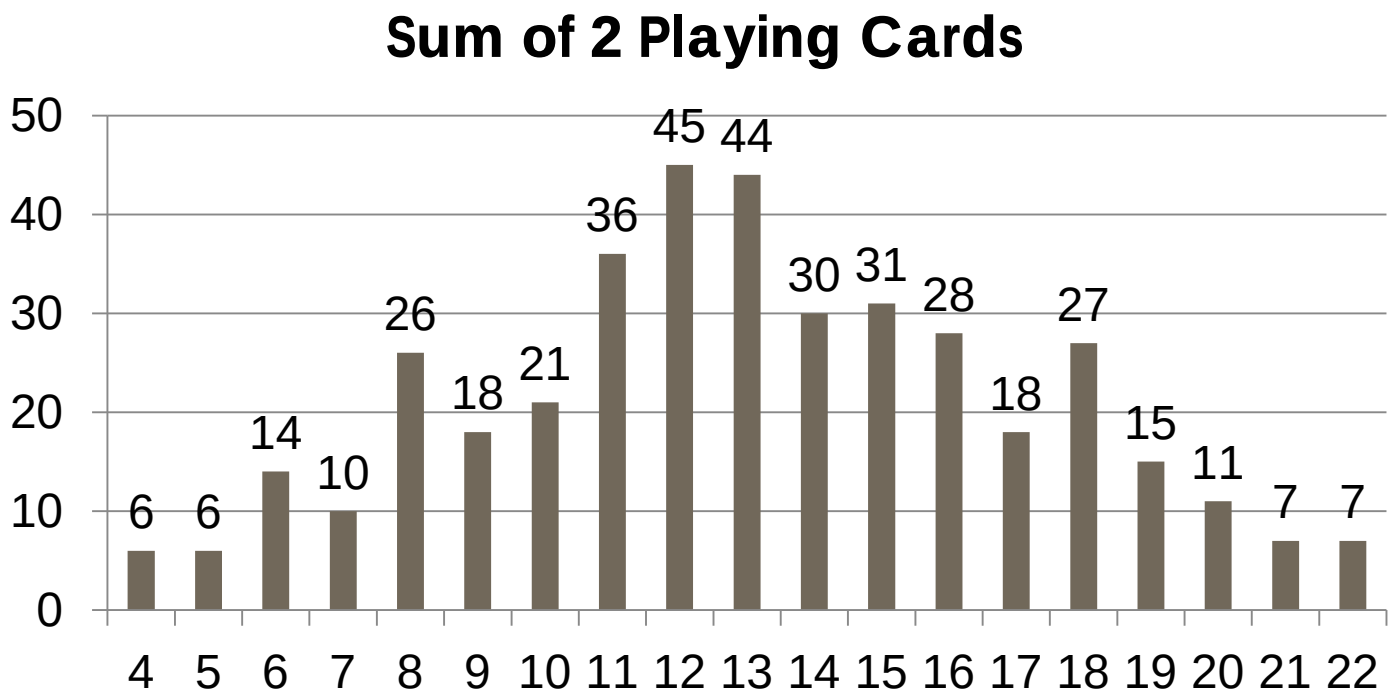
Cards

- Calculate the expected Probability for each of the values:
  - The sum of the 2 cards (4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22)
  - The sum is ODD or Even

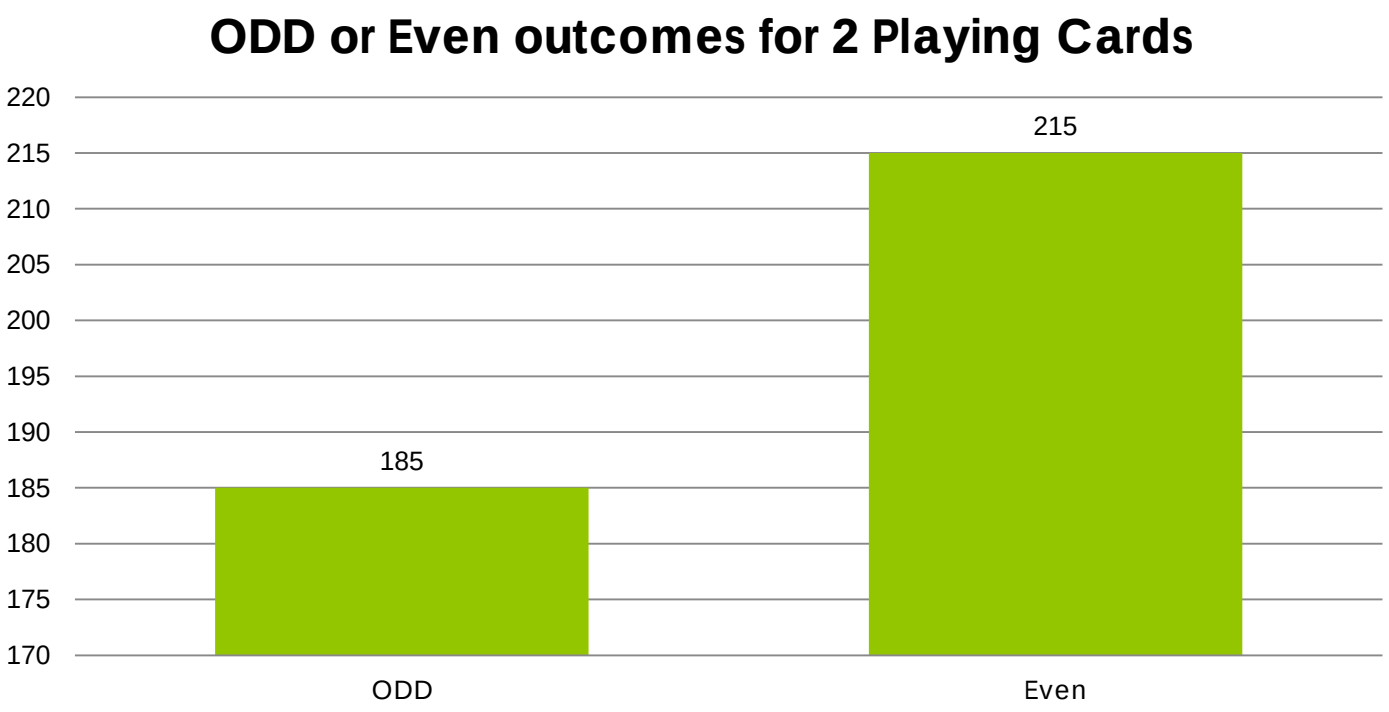
Cards

- Is the data consistent with these?

Cards 1


Sum of 2 Playing Cards
50
40
30
20
10
0
6 6 14 10 26 18 21 36 45 44 30 31 28 18 27 15 11 7 7
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

Cards 2


ODD or Even outcomes for 2 Playing Cards
220
215
210
205
200
195
190
185
180
175
170
185
215
ODD
Even

Assignment

- Come up with another example of simple probability (you must use at least 2 items)
- Determine the possible outcomes
- Determine the probability of these outcomes
- Test these outcomes (at least 100 turns)
- Show your findings and how they compare to your probabilities.
- Due next class (at the end of class)