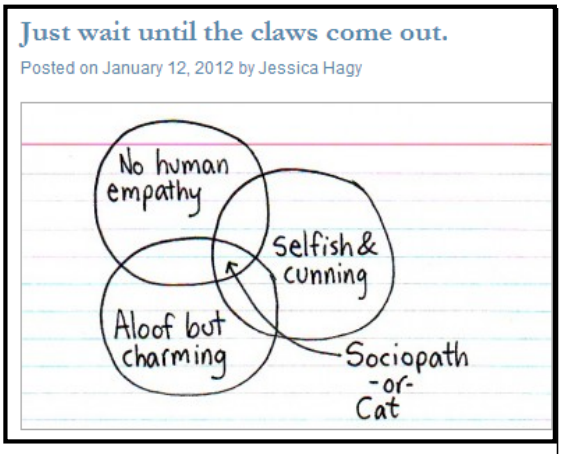
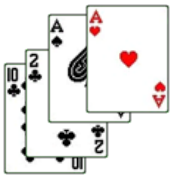


Check last night's homework

Assignment #3

Probability



Sets Venn D

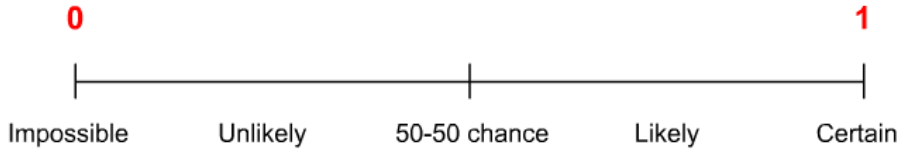
Aim: Calculate Basic & Simple Probabilities

- Using Sample Space
- Using Venn Diagrams
- Using Probability Laws

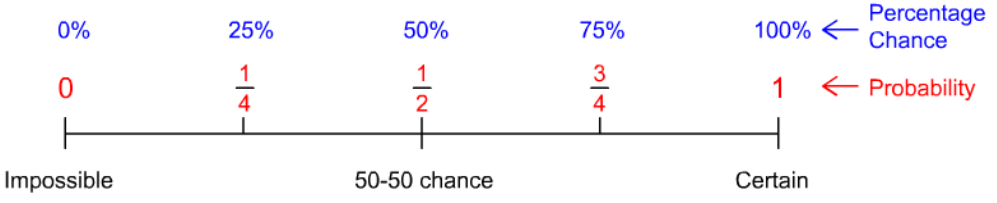
Probability

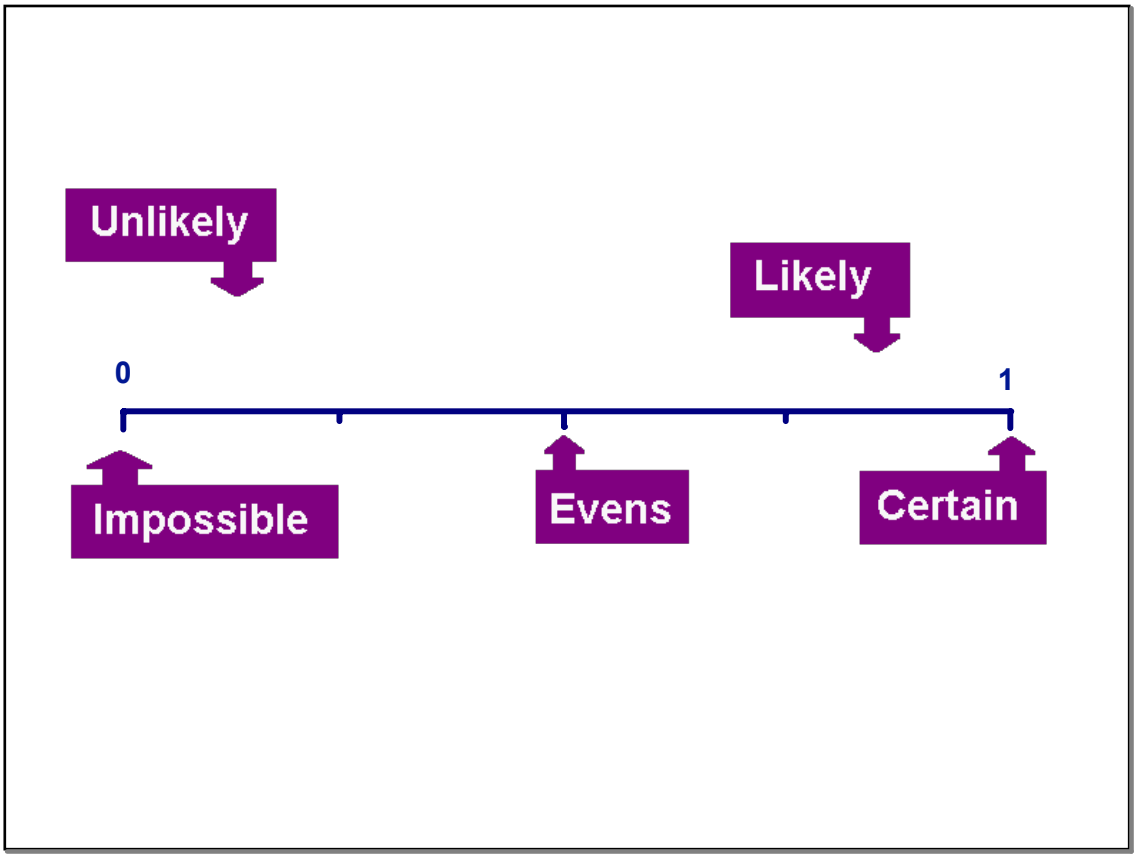
P(event) =

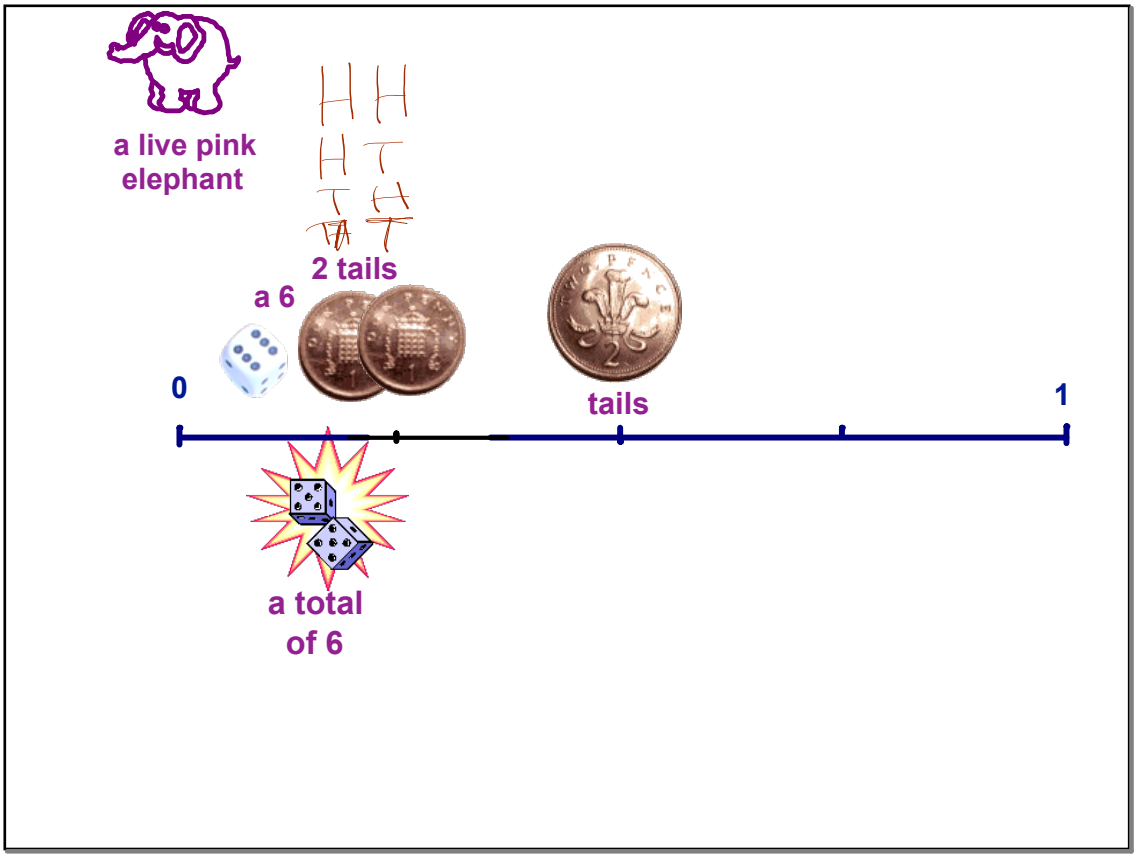
$\frac{10}{15}$



We can also give probability as a ***percentage chance***




Unlikely
Likely
0
1
Impossible
Evens
Certain


a live pink elephant
HH
HT
TH
TT
2 tails
a 6
tails
0
1
a total of 6

Some basics of Theoretical Probability

DEFINITIONS

Probability	The chance of an event happening
Outcome	The result of a single trial
Event	One or more outcomes
Sample Space	The set of all possible outcomes

Theoretical Probability for an event, E,

$$\text{is} = \frac{\textit{number of members of the event E}}{\textit{total number of possible outcomes}}$$

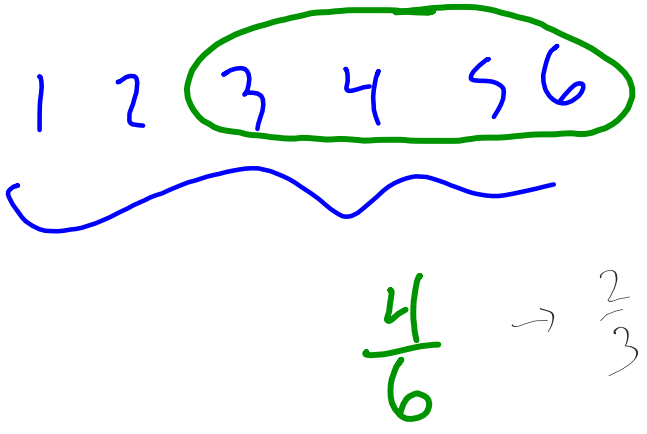
Let's see what you know at this early stage.

1

When rolling a fair, six-sided die, what is the probability of getting a number higher than 2?

Multiple choice

- A 1/4
- B 1/2
- C 2/3
- D 1/3

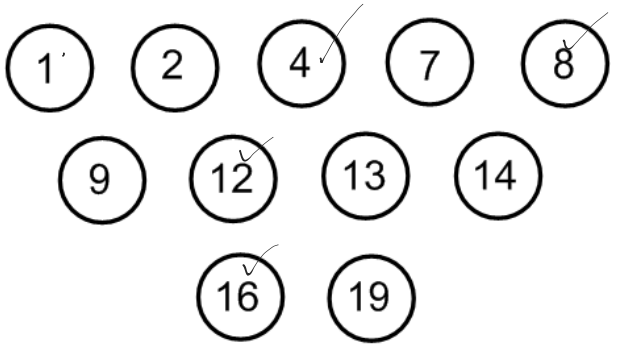


2

The following chips are thrown in a bag. What is the probability of picking a multiple of 4?

Numeric

Students type their answers here



4
8
12
16
20
24

4/11

2

The following chips are thrown in a bag. What is the probability of picking a multiple of 4?

Numeric

Students type their answers here

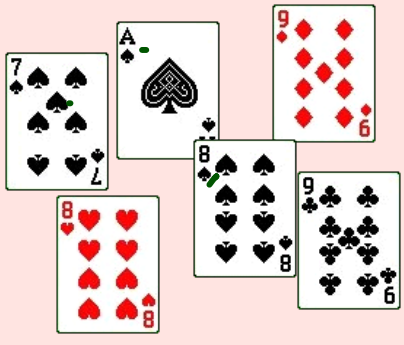
1 2 4 7 8

9 12 13 14

16 19

$\frac{4}{11}$

What is the chance of the next card being …



… a 9 $\frac{2}{46}$

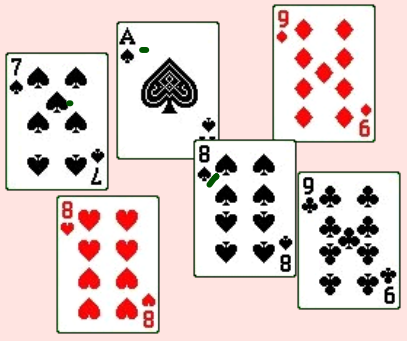
… an 8 $\frac{2}{46}$

… an Ace $\frac{3}{46}$

… a spade? $\frac{10}{46}$

What is the chance of the next card being ..

13
13
13
13
52



... a 9 $\frac{2}{46} = \frac{1}{23}$

... an 8 $\frac{2}{46}$

... an Ace $\frac{3}{46}$

... a spade? $\frac{10}{46}$

Coin tossing experiments:

If a coin is tossed 3 times, what is the probability we will get 2 heads ? $\frac{3}{8}$

List the Sample Space

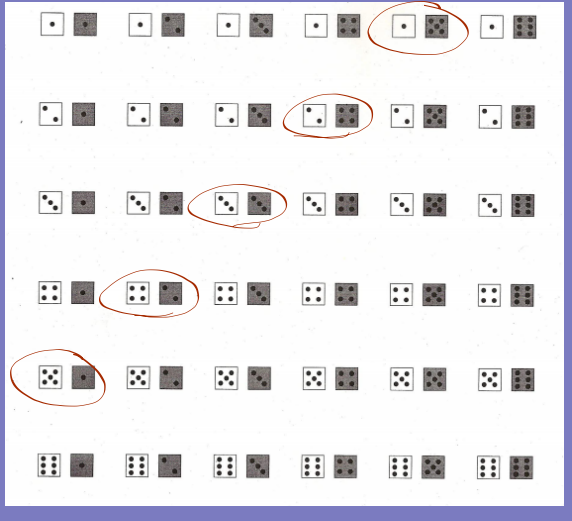
HHH HHT HTT TTT
HTH THT
THH TTH

Sample Space

What is the sum on the dice
if two are tossed?

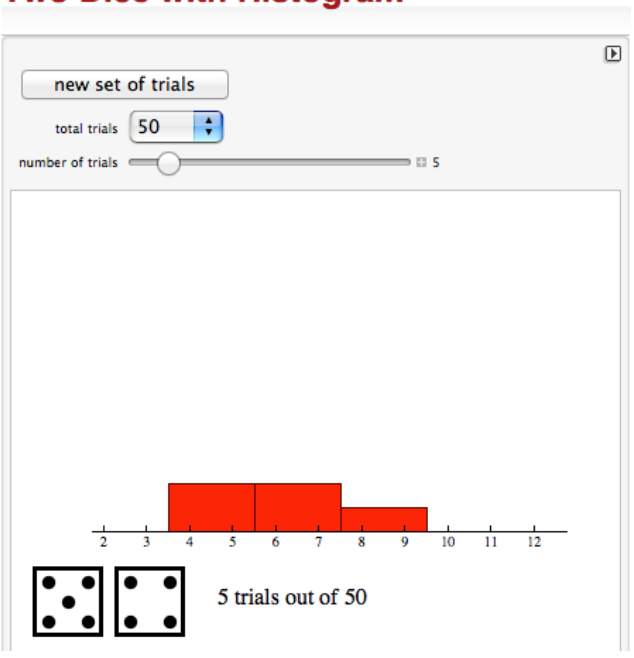
Looking at a Sample Space is powerful especially if the situation is not finding the sum of two die

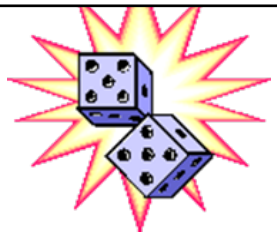
$\frac{5}{36}$



5+1
1+5

Two Dice with Histogram





When you throw two ordinary dice, what is the probability that you get....

a) a difference of 5 $\frac{2}{36}$
b) a double 6 $\frac{1}{36}$
c) a double $\frac{6}{36}$
d) two prime numbers $\frac{9}{36}$
e) a difference of 0..? $\frac{6}{36}$

+	1	2	3	4	5	6
1						
2						
3						
4						
5						
6						

Probability Game

a game called SKUNK

S
K
U
N
K

Skunk

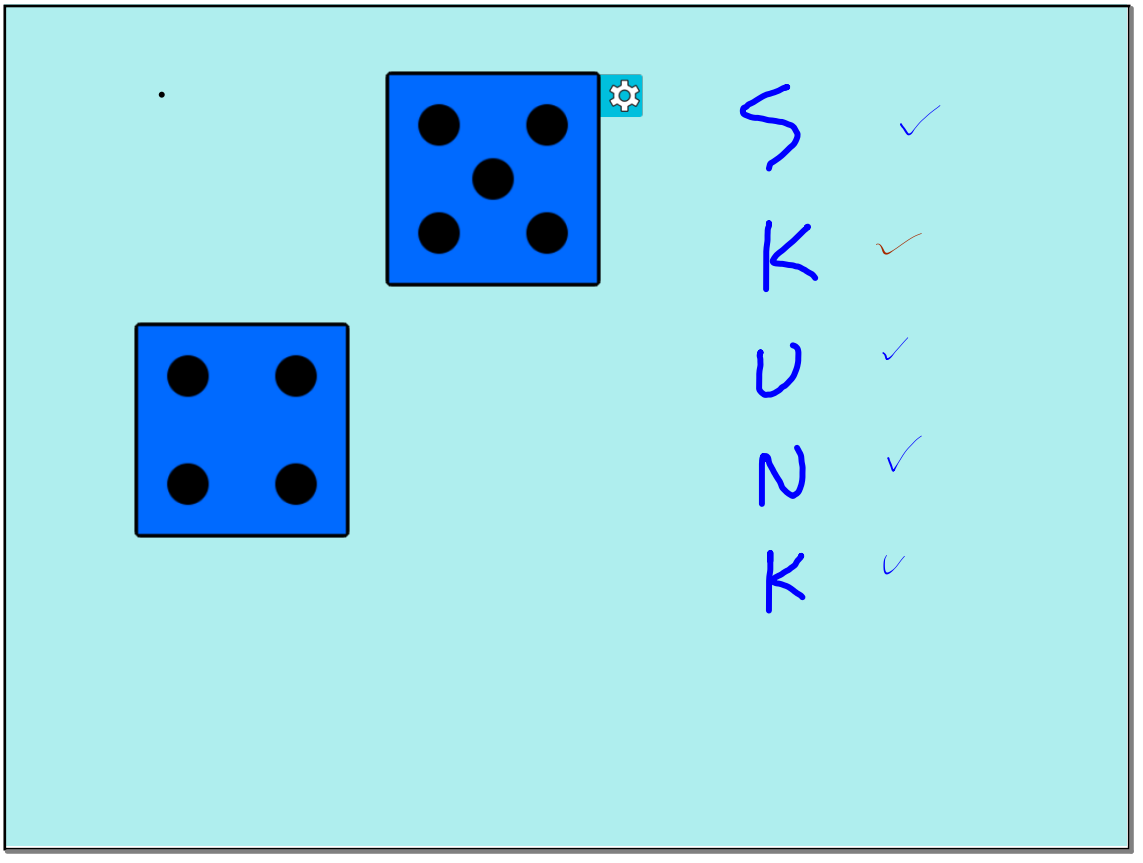
The game of chance.

Two dice are rolled.

Earn points if you are standing (as long as a 1 does not appear.)

Keep earning points if stay standing (as long as a 1 is not rolled.

Sit down when you want to keep your points and don't want to risk losing them. You can play again in the next round.



LCQ

B.B.

Assignment No. 4 HH

p.80…9
p.456… 2, 3
p.461…. 1
p.465… 1, 4, 6,7

p82…. 4,6,7,8

See me after class if you ended up not signing up to take the IB math Studies test.