

Turn in the Geometry/Trig Packet (if not done yesterday)

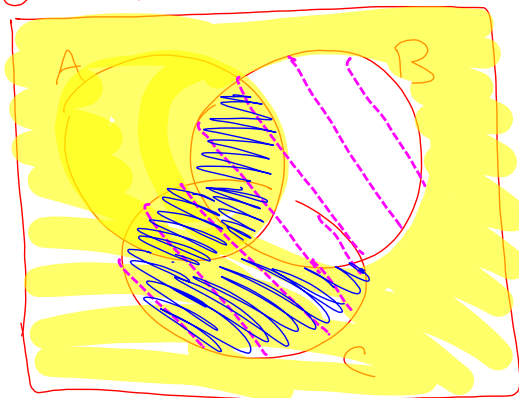
Class ID **16589254**

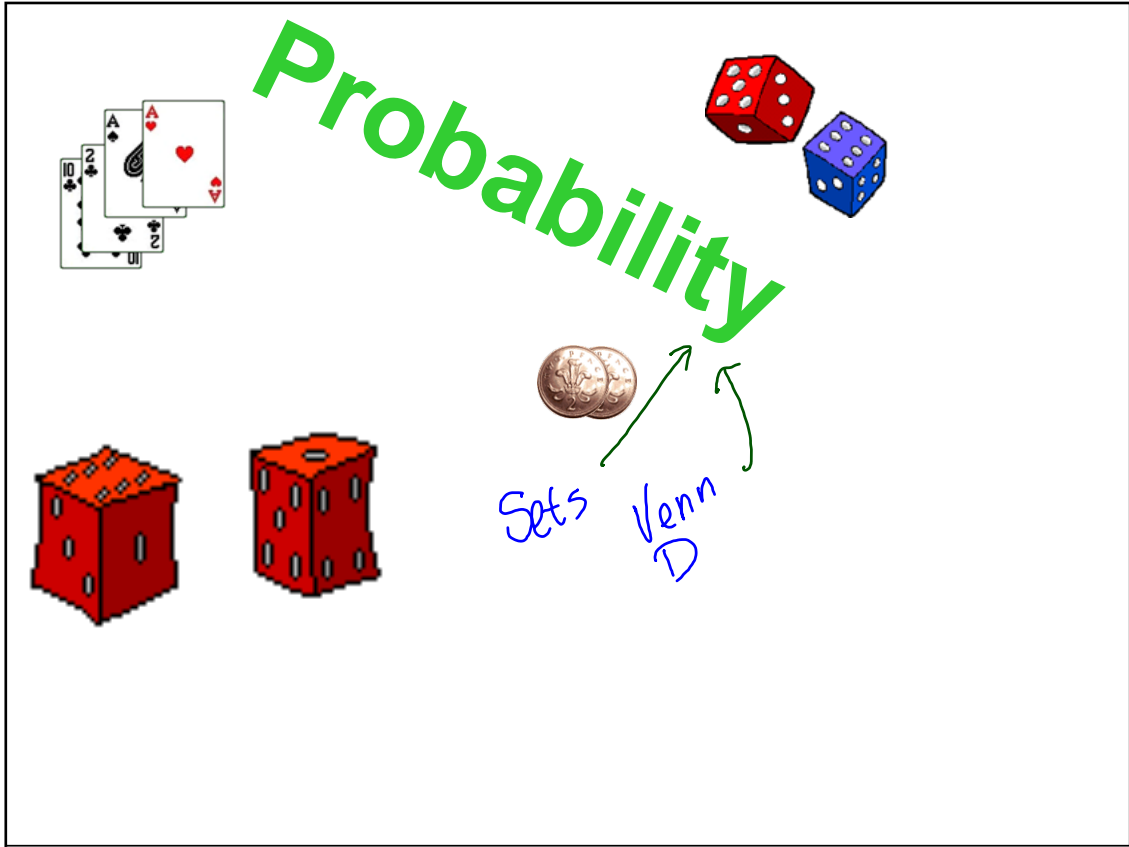
Enrollment key **LSRL**

# CHECK last night's homework

Assignment #3

$$(A \cup B') \cap (C \cup B)$$

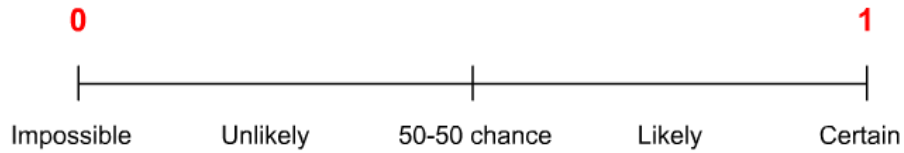




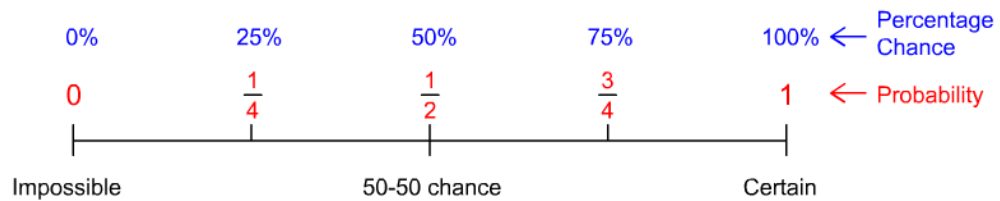
Aim : CALCULATE BASIC & Simple Probabilities

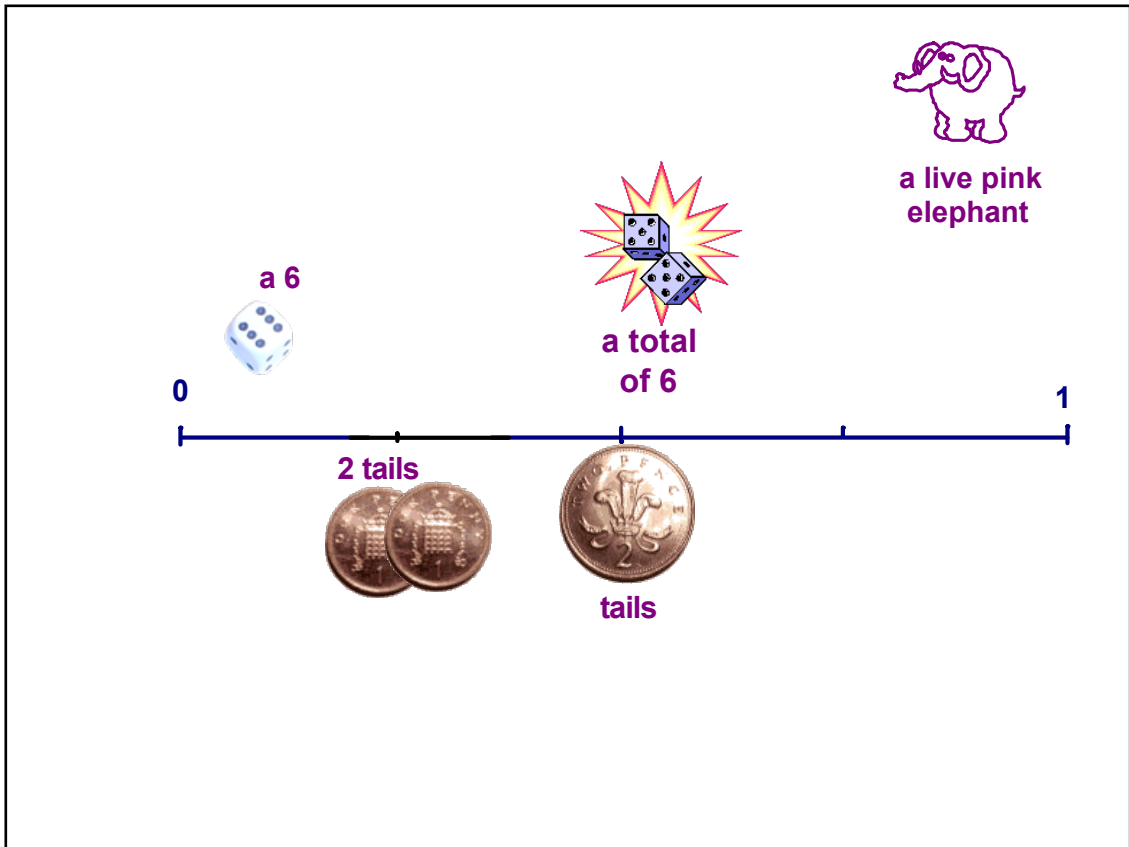
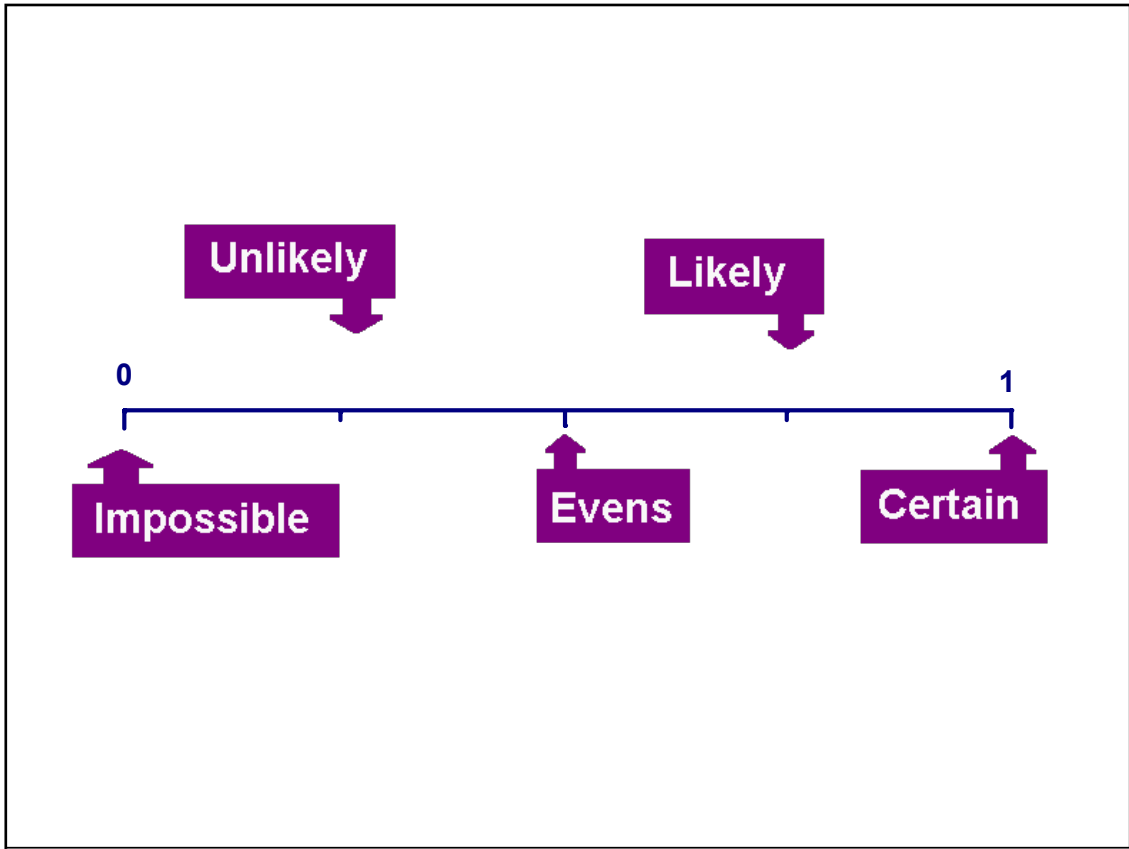
- Using Sample Space
- Using Venn Diagrams
- Using Probability Laws

# Probability



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





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

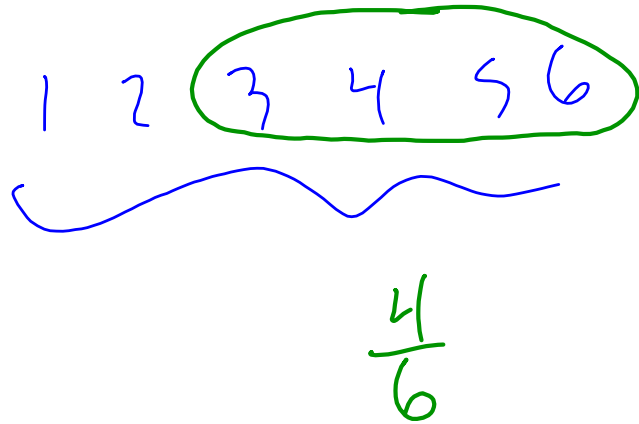
Theoretical Probability for an event,  $E$ ,

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

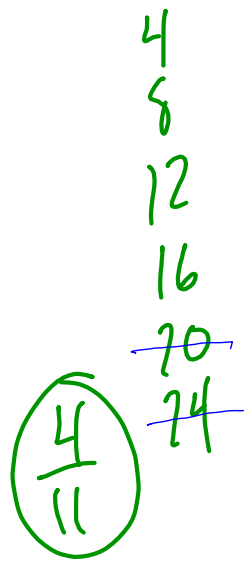
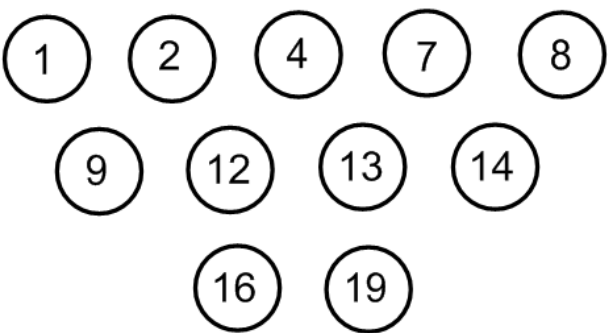
Let's see what you know at this early stage.

**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

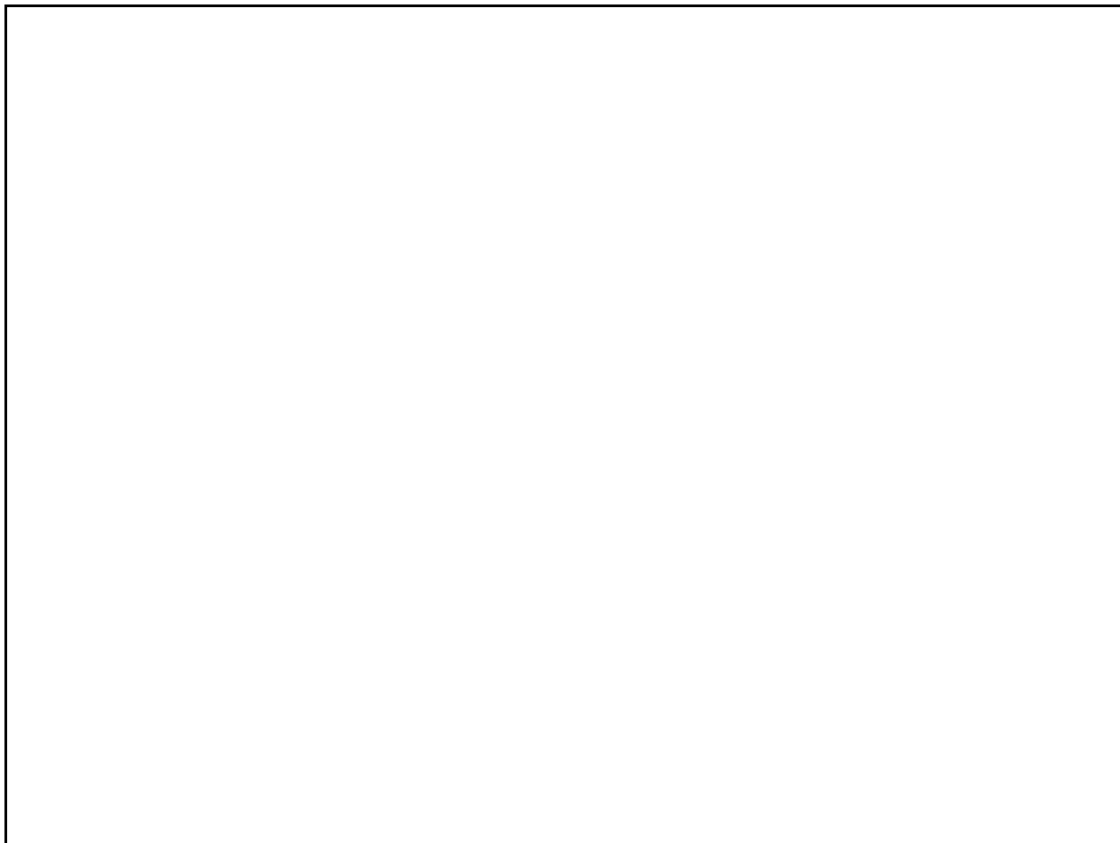




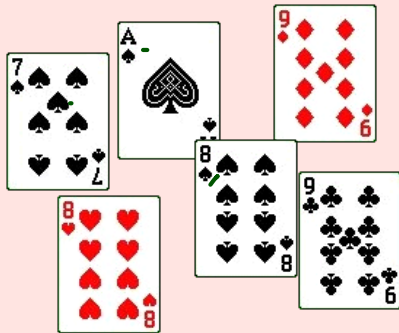
2 The following chips are thrown in a bag. What is the probability of picking a multiple of 4? Numeric

- 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  $\frac{3}{46}$

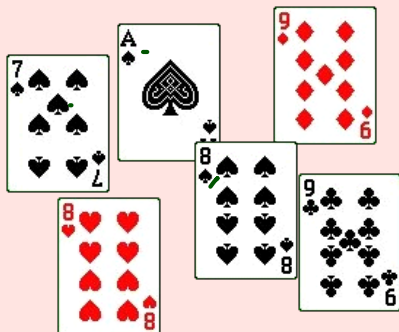
... a spade?  $\frac{5}{23} = \frac{10}{46}$

What is the chance of the next card being ...

13  
13  
13  
13  

---

52

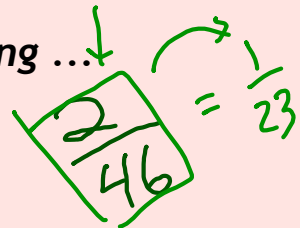


... a 9

... 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

HTH  
 THH  
 HHT

TTH

TTT

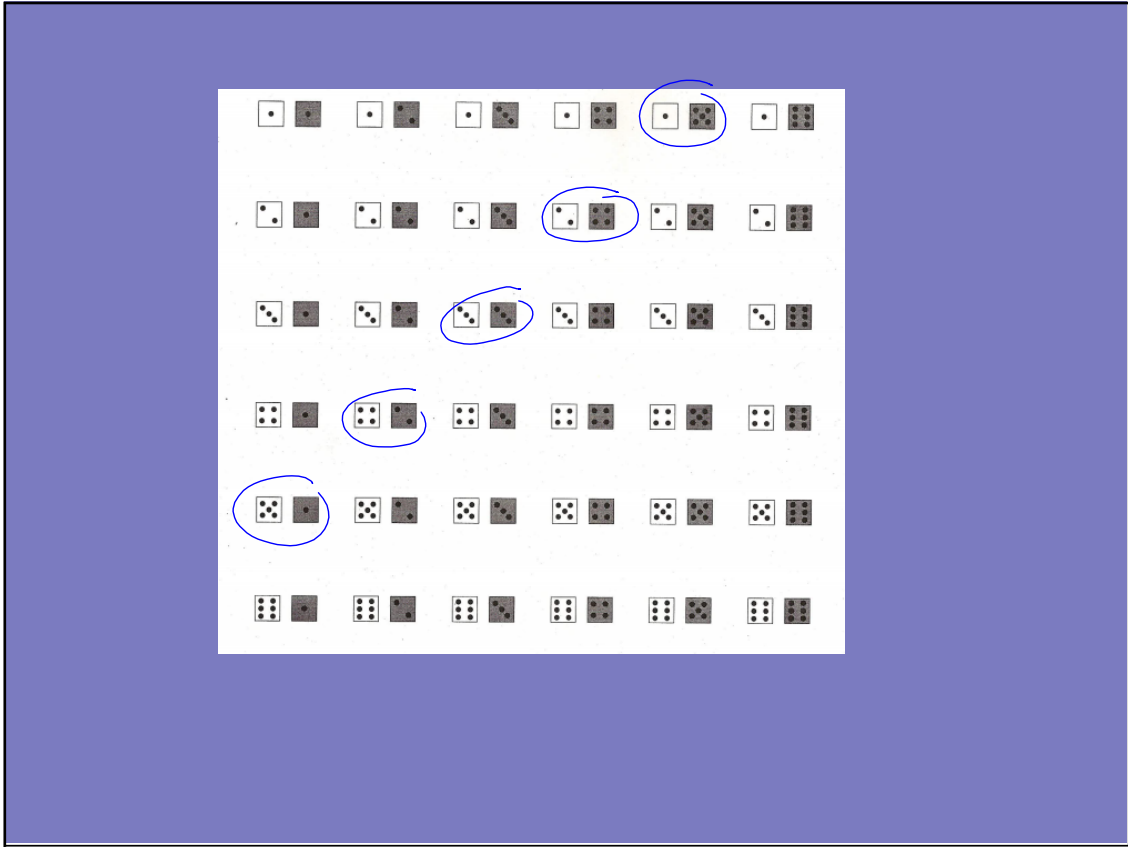
HTT

THT

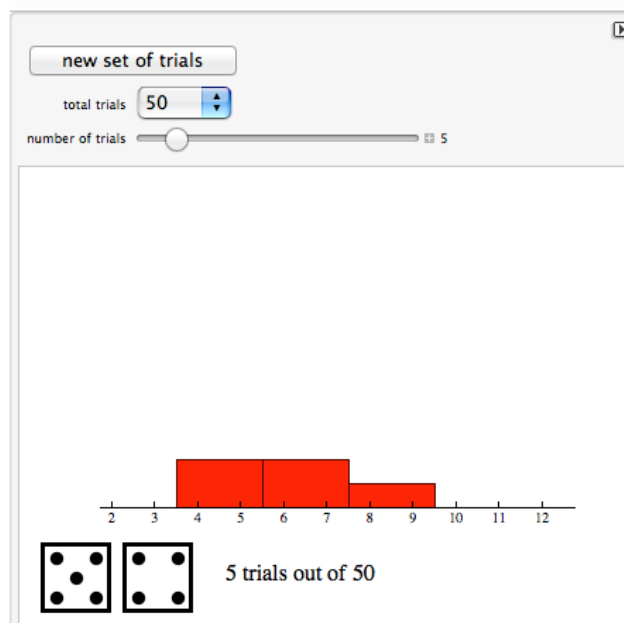
Sample Space

**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



### Two Dice with Histogram





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

- a) a difference of 5  $\frac{11}{36}$   $\frac{2}{36}$
- b) a double 6  $\frac{1}{36}$
- c) a double  $\frac{6}{36}$
- d) two prime numbers  $\frac{1}{4}$
- e) a difference of 0..?  $\frac{1}{6}$   $\frac{6}{36}$

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

Probability Game

a game called SKUNK

S  
K  
U  
N  
K  
=

# Skunk

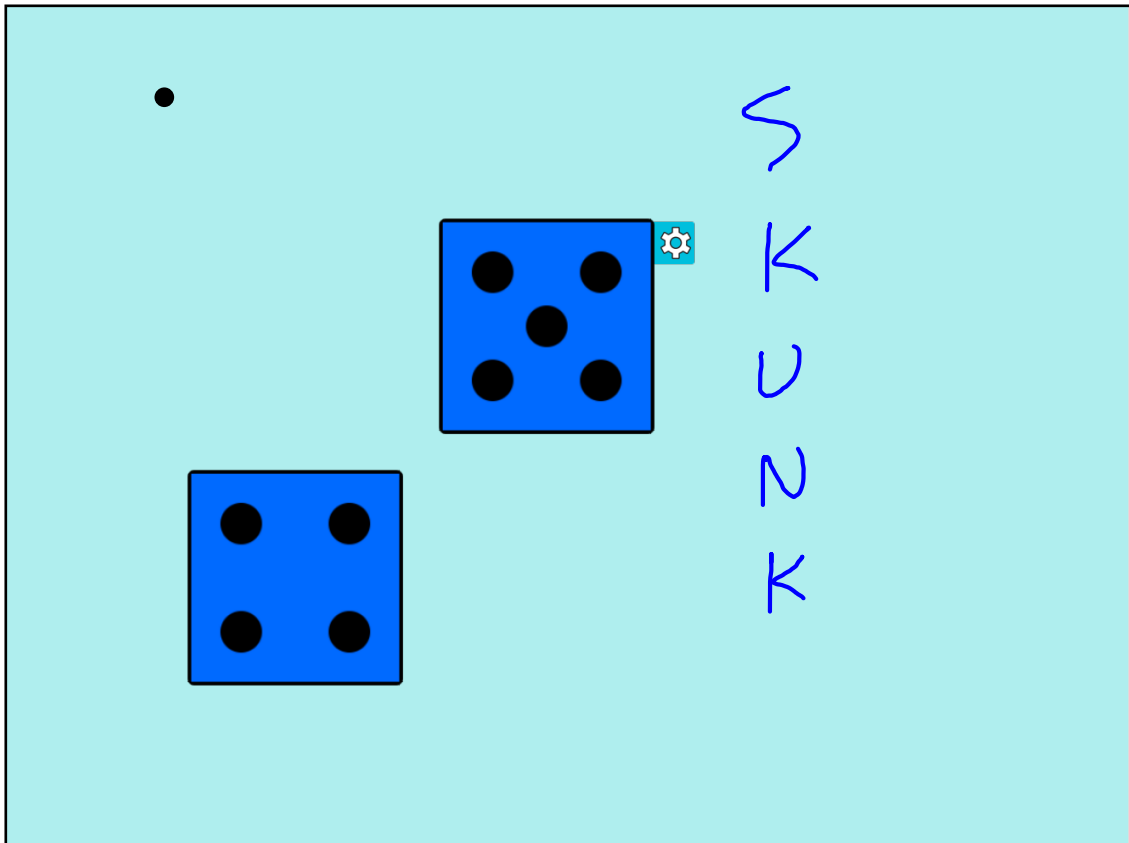
The game of chance.

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.



LCO

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 Studiesfest.

**Turnitin.com**

Class ID **16589254**

Enrollment key **LSRL**