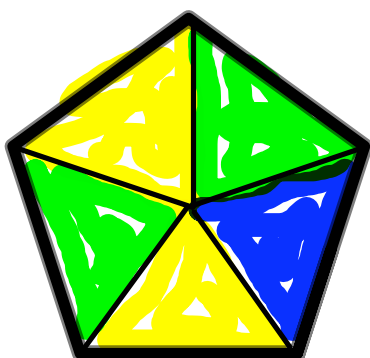


1.1 Experimental and Theoretical Probability

$$P(\text{event}) = \frac{\text{favorable outcomes}}{\text{total outcomes}}$$



P (yellow) =

P(rolling a 6) =

$$\frac{1}{6}$$



Investigate Pg.4

(1 head, 2 Tails)	(2 heads, 1 tail)	3 heads	3 tails
	+++		

**Experimental probability:**

Probability based on data obtained from an experiment.

Theoretical Probability:

Probability that is based on things we know to be true.

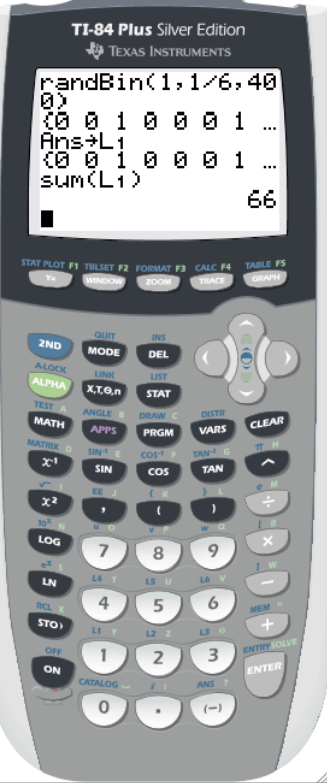
Let's simulate rolling a die 400 times using our calculator.

Calculator Steps:

1. MATH key
2. PRB Menu
3. choose 7. randBin(
4. randBin(1, 1/6, 400)



Let us use our results to determine the probability of rolling a 2.



TI-84 Plus Silver Edition
TEXAS INSTRUMENTS

```
randBin(1,1/6,400)
0)
(0 0 1 0 0 0 1 ...
Ans→L1
(0 0 1 0 0 0 1 ...
sum(L1)
66
```

Let's simulate rolling a die 400 times using our calculator.

Calculator Steps:

MATH key
PRB Menu
choose 7. randBin(
randBin(1, 1/6, 400)

Handwritten notes:
STO → L1
2nd f STAT MATH
sum(L1)

$$\frac{66}{400}$$

Let us use our results to determine the probability of rolling a 2.

[Extend Page](#)

Tree Diagram

Let us construct a tree diagram to illustrate all of the outcomes of rolling two dice

Die #1 (6)

Die #2 (6)



Total # of outcomes

$$6 \times 6 = 36$$

$$P(\text{rolling 2 and 3}) = \frac{1}{36}$$

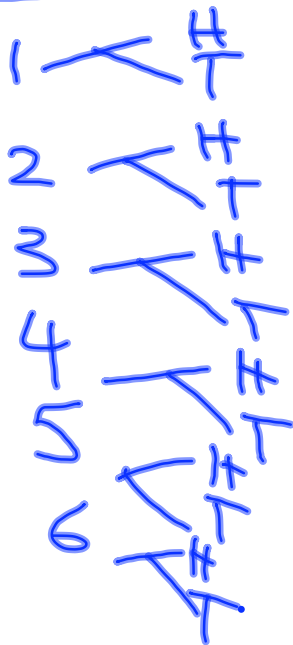
$$P\left(\begin{array}{c} \text{2 and 3} \\ \text{OR} \\ \text{1 and 5} \end{array}\right)$$

4

5

6

Construct a tree diagram to illustrate all of the outcomes of rolling a single die and flipping a coin



$$6 \times 2 = \textcircled{12}$$

Use your tree diagram to calculate the following probability

P(Head and even #) $\frac{3}{12} = \textcircled{\frac{1}{4}}$

Assignment:
Pg. 10
2-6, 10