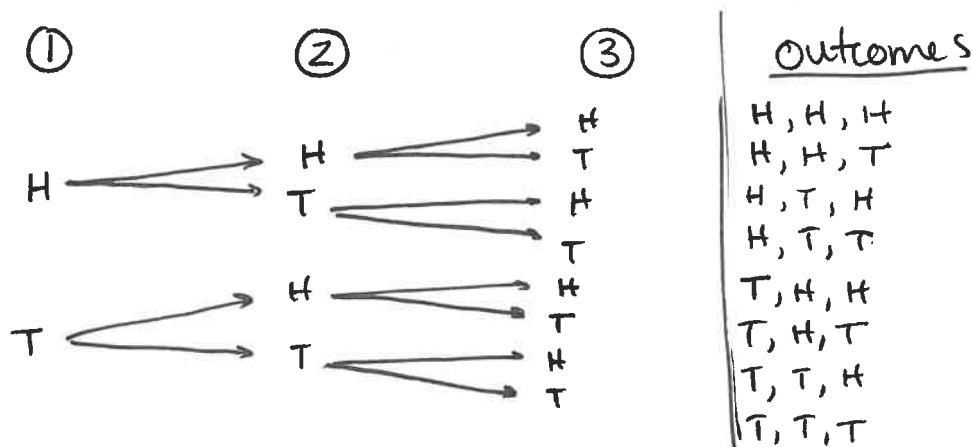


Chapter 9: Statistics and probability**CH 9.3 - Determining probability using tree diagrams and tables****Probability** - The likelihood or chance of an event occurring

- Written as $P(\text{event}) = \frac{\# \text{ of favorable outcomes}}{\text{Total \# of outcomes}}$

 $P(A, B)$ - Event (A) **and** event (B) both occurring $P(A \text{ then } B)$ - Event (A) occurring **then** event (B) occurring $P(A \text{ or } B)$ - Event (A) occurring **or** event (B) occurring**Favorable outcome** - A successful result in a probability experiment; "What we are hoping to happen"**Sample Space** - All possible outcomes of a probability experiment

- We can determine the sample space of a probability experiment by using a tree diagram or a table

Tree Diagrams**Example:** Flipping a coin 3 times consecutively.**Try it out:**
 $P(\text{H then T then H}) =$
 12.5%

 $P(H, H, H) =$
 12.5%

 $P(2H) =$
 37.5%

 $P(2H \text{ or } 2T) =$
 75%

Name:

Math 8

Date:

Tables

Example: Rolling two die and taking the sum

	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

Try it out:

$P(\text{sum of } 7) =$

16.67%.

$P(\text{sum of } 2) =$

2.77%.

$P(\text{sum} > 7) =$

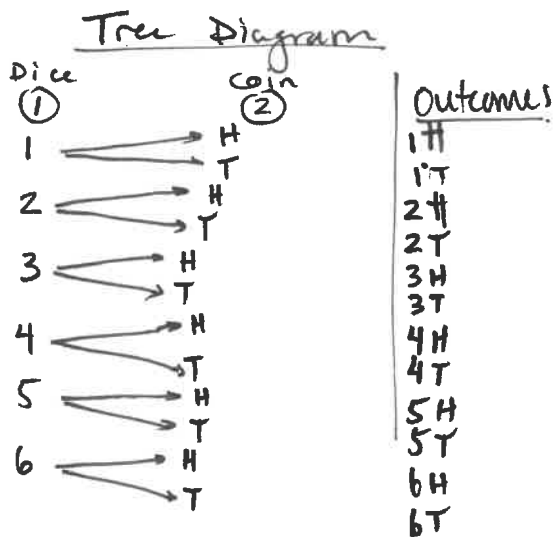
41.67%.

$P(\text{even sum}) =$

50%.

Example: Rolling a die then flipping a coin.

Show the sample space with a tree diagram and a table



Table

	1	2	3	4	5	6
H	1H	2H	3H	4H	5H	6H
T	1T	2T	3T	4T	5T	6T

Try it out:

$P(1, H) =$

8.3%.

$P(\text{not } 6, T) =$

41.67%.

$P(< 4, H) =$

25%.

Practice assignment -

- Page 319 # 1-4, choose 2 apply questions (if absent)