

# Chapter 2

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**Def** Experiment : any activity / situation w/ uncertainty about which  $x \geq 2$  outcomes are possible

- coin toss, roll a die, draw a card

**Def**

**Sample Space**

- collection of all possible outcomes of a chance experiment

Notate - s or  $\mathcal{U}$

- Toss a coin : heads or tails

**Def**

**Event :**

- any collection of outcomes from a sample space of a chance experiment

Notate

CAP letters :  $A, B, C, \dots$

**Def** Simple Event : event that consists of one outcome

Compound Event : event that consists of more than one outcome

**Ex** Tennis : A tennis shop carries 5 brands of rackets (Head, Prince, Sazenger, Wimbledon, Wilson). Each racket comes in midsize / oversize

- a. sample space

*insert diagram here*

- b. Let A be the event an oversized racket is purchased

$$A = \{HO, PO, SO, WimO, WilO\}$$

c. Let B be the event the name brand starts w/ a W

$$B = \{WimM, WimO, WilM, WilO\}$$

### Forming New Sets

Let A and B be any 2 events

**Def** Complement of A :

- all outcomes in S, not in A

**Notate**  $A', \bar{A}, A^c$

**Notate** union - A or B - inclusive

$$A \cup B$$

intersection - A and B

$$A \cap B$$

**Ex** Tennis Cont.

d.  $\bar{B}$  = brand does not start w/ W

$$\bar{B} = \{HO, HM, PO, PM, SO, SM\}$$