

CH.4 PROBABILITY & PROBABILITY DISTRIBUTIONS

4.2 EVENTS & THE SAMPLE SPACE

Def: AN EXPERIMENT IS THE PROCESS BY WHICH AN OBSERVATION (OR MEASUREMENT) IS OBTAINED.

e.g. FLIPPING A COIN, ROLLING A DIE, RECORDING RAINFALL, ETC.

Def: A SIMPLE EVENT IS THE OUTCOME OBSERVED ON A SINGLE REPLICATION OF THE EXPERIMENT.

AN EVENT IS A COLLECTION OF SIMPLE EVENTS.

e.g. ROLLING A DIE, SIMPLE EVENTS: 1, 2, 3, 4, 5, 6.

EVENT ROLLING ODD NUMBER = {1, 3, 5}

EVENT NOT ROLLING 4 = {1, 2, 3, 5, 6}

Def: TWO EVENTS ARE MUTUALLY EXCLUSIVE IF WHEN ONE EVENT OCCURS, THE OTHER CANNOT, AND VICE VERSA.

(i.e. EMPTY INTERSECTIONS)

CARDS: DRAWING A ♥ AND A ♦ (MUT. EXCL.)

DRAWING A ♥ AND A K (NOT MUT. EXCL.)

Def: SET OF ALL SIMPLE EVENTS IS CALLED SAMPLE SPACE S.

VENN DIAGRAM

TREE DIAGRAMS (TO HELP LIST SIMPLE EVENTS)