

Math 142: Monday, September 30th, Day 13 Notes

Agenda for Monday, Sep 30th 2024	
Finish Section 4.1	1
Group Quiz 3	1

Coming up

- ! HW 8 due today, Sept 30th
- ! HW 9 due Wednesday, Oct 2nd
- ! Second **Excel Homework** due Wednesday, Oct 2nd
- Student Hours Tuesday, 1-2:15pm

Often we deal with events that are described in terms of other events. These are called compound events and they involve the connectors *or*, *and* and *not*.

Example 1. Consider the experiment of rolling a six sided die and flipping a coin.

Sample space: $S = \{1T, 1H, 2T, 2H, 3T, 3H, 4T, 4H, 5T, 5H, 6T, 6H\}$.

Let event A be the event of rolling an even number and event B be the event of getting Tail on the coin.

$$A = \{ \quad \quad \quad \}$$

$$B = \{ \quad \quad \quad \}$$

The even A **OR** B includes

The even A **AND** B includes

The Complement of event A

Conditional probability

Unusual event

Example 2. The sample space S is the set of the first 20 whole numbers. Let event A = "the even numbers" and event B = "numbers greater than 13". Fill in the blanks:

1. $A =$

$$B =$$

2. $P(A) =$

$$P(B) =$$

3. A and $B =$

4. A or $B =$

5. $P(A \text{ and } B) =$

6. $P(A \text{ or } B) =$

7. $A' =$

$$P(A') =$$

8. $P(A) + P(A') =$

9. $P(A|B) =$

$$P(B|A) =$$