Homework 01 - STAT416

Joseph Sepich (jps6444)

09/08/2020

Chapter 1 Problem 4

Let E, F, G be three events. Find expressions for the events.

Part a

Only F occurs:

$$E^c \cap F \cap G^c$$

Part b

Both E and F but not G occur:

$$(E \cup F) \cap G^c$$

Part c

At least one event occurs:

$$E \cup F \cup G$$

Part d

At least two events occur:

$$(E \cap F) \cup (E \cap G) \cup (F \cap G)$$

Part e

All three events occur:

$$E \cap F \cap G$$

Part f

None occurs:

$$(E \cup F \cup G)^c$$

Part g

At most one occurs (Also the complement of at least two):

$$((E \cap F) \cup (E \cap G) \cup (F \cap G))^c$$

Part h

At most two occur (Also the complement of all three):

$$(E \cap F \cap G)^c$$

Chapter 1 Problem 11

Chapter 1 Problem 20

Chapter 1 Problem 21

Chapter 1 Problem 26

Chapter 1 Problem 29

Chapter 1 Problem 38

Chapter 1 Problem 42

Chapter 1 Problem 46

Chapter 2 Problem 5

Chapter 2 Problem 9

Chapter 2 Problem 10