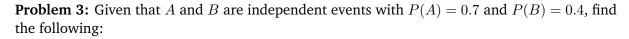
Nar Fall	ne: 2014				MAT 221 Problem Set 4			
	blem 1: Mark	the following	T (true) or	· F (falsa)·				
		`						
(a)	: One i	•		rials to be a	ble to create	a chart of p	orobabilities a	ınd
(b)	: Rand predict possibl	_	enon are ou	tcomes that	one cannot ı	ıse probabil	ity arguments	s to
(c)	: Indepothers.	pendent trial	ls are events	s where one	outcome do	oes not influ	ence any of	the
(d)	: All pr	obabilities a	re between	0 and 1.				
(e)	: Disjo	int events ar	e independe	ent.				
	blem 2: Krysting has the follow			games so she	always brin	gs a weighte	ed dice. Her f	oul
	Value	1	2	3	4	5	6	
	Probability	0.10	0.25	0.20		0.15	0.25	
(a)	Complete the	table above,	i.e. find the	probability	of rolling a	4.		
(b)	What is the pr	obability of 1	olling a 1 o	r a 5, i.e. wh	nat is $P(1$ or	5)?		
(c)	What is the pr	obability of 1	rolling a 2 o	r a 6, i.e. wh	nat is $P(2 \text{ or }$	6)?		
(d)	What is the pr	obability of \imath	ot rolling a	3, i.e. what	is $P(\text{not } 3)$?			
(e)	What is the pr	obability of 1	rolling a 7?	What about	the probabil	ity of rolling	g a 2 and a 3?	,

(f) The probability of the sum of two rolls being 10?



- (a) P(A and B)
- (b) $P(B \mid A)$
- (c) P(A or B)

Problem 4: There are three airlines to get from Mayberry to Pawnee: Artin Lines, Stewart Air, or Albowitz Flights. If you take Artin, there is a 60% chance your flight will be late, 50% if you take Stewart, and a 20% chance that you will be late if you take Albowitz. However, Artin services 50% of the flights from Mayberry to Pawnee, Stewart handles 40% of the flights, while Albowitz handles only 10% of the flights.

(a) Draw a diagram illustrating the possible outcomes.

- (b) What is the probability that you took a flight from Mayberry to Pawnee and were late? What is the probability that you were both late and took Albowitz?
- (c) If you took a flight from Pawnee to Mayberry and the flight was on time, what was the probability that it was Stewart?

Problem 5: Real estate ads suggest that 64% of homes for sale have garages, 21% have swimming pools, and 17% have both features.						
(a) Find the probability that a home for sale has a garage or a swimming pool.						
(b) Find the probability that it has neither a swimming pool nor a garage.						
(c) Find the probability that a randomly chosen home has a pool but not a garage.						
(d) If a randomly chosen house has a garage, what is the probability that it also has a pool?						