Math 3339 Name:

HW #2

Please, write clearly and justify all your steps, to get proper credit for your work.

(1)[2 Pts] A bowl contains 20 chips, of which 9 are red, 8 are blue and 3 are white. Six chips are drawn at random and without replacement.

(i) Compute the probability that each of the 6 chips is red.

(ii) Compute the probability that 3 chips are red and 3 chips are blue.

(2)[6 Pts] Two cards are drawn successively and without replacement from a 52-card deck of playing cards. Compute the probability of drawing:

(i) two hearts;

(ii) a heart on the first draw, a club on the second draw;

(iii) a heart on the first draw, an ace on the second draw.

(3)[2 Pts] From a regular deck of 52 playing cards, cards are drawn successively and without replacement. Compute the probability that the third spade appears on the sixth draw.

(4)[6 Pts] A survey organization asked respondents from 3 different geographical regions what they views were on a certain topic. The answer are reported below.

	East	Midwest	West
Pessimistic	100	90	110
Optimistic	40	70	90
Total	140	160	200

(i) What is the probability that a randomly selected respondent is pessimistic?

(ii) What is the conditional probability that a respondent from the Midwest is optimistic?

(iii) What is the conditional probability that a respondent who is optimistic comes from the Midwest?

(iv) Are the views of the respondents independent on the geographical regions? Justify your answer.