

## Math 4721 Quiz 1 Set 1

*Please answer in a loose sheet*

*Write your ID number at the top of your first page.*

*Total marks: 15*

*Time: 40 minutes*

**1**

In a certain town, 60% of the families own a car, 40% own a house and 20% own both car and house. If a family is randomly chosen, then what is the probability that this family owns a car or a house but not both?

4

**2**

In a poker game, each player gets a hand of 5 cards that are given randomly from 52 cards. Three of a kind is defined as a hand where there are three cards of the same kind. The last two cards cannot be of the same kind as the first three. Given that there are 13 kinds and 4 suits, find the probability of getting a hand with three of a kind.

4

**3**

A 10 sided die is rolled. The results of the experiments reveal that the die is biased, with the **probability of getting an even number being double the probability of getting an odd number**. What is the probability of:

- a. Getting an outcome greater than or equal to 8. 1
- b. Getting a summation of the outcomes equal to 5, if the die is rolled twice. 2
- c. Getting a summation of 19, given that the summation of two outcomes is greater or equal to 18. 4