Math 111 First Probability Worksheet

Print **all** group member's names here. Circle the name of the group member who turns this in.

1. Which of these are continuous (C) and which are discrete (D)?

   The weight of a pail of water.

   Molecules in a pail of water.

   The speed of a car in mph.

   The height of corn plants.

   The number of ears of corn produced.

   The number of green M&M's in a bag.

   The time it takes for a car battery to die.

2. A survey of automobiles parked on a university campus lot classified the brands by country of origin and by the type of parking permit (student or faculty/staff).

	American car	European car	Asian car
student	25	10	15
faculty/staff	9	4	12

   a. How many cars were in the lot?

   Suppose we choose a car at random. Let S be the event that the car belongs to a student, let A be the event that the car is an American car. Find the following probabilities (leave your answer as fractions; no need to reduce):

   b. $P(S)$

   c. $P(A)$

   d. $P(\overline{S})$

   e. $P(\overline{A})$

   f. $P(A \cap S)$

   g. $P(A \cup S)$

3. A special deck of cards has five suits (red, yellow, green, black, purple), each with ranks 1 through 9.

   a. How many cards are in this deck?

   Suppose we draw a card at random. Let R be the event that the card is red. Let E be the event that the card we draw has rank 8. Find the following probabilities (leave your answer as fractions; no need to reduce). Also, express these using the appropriate probability notation.

   b. The probability the card is red:

   c. The probability the card is not an eight:

   d. The probability the card is a red eight:

   e. The probability that the card is either red or an 8 (or both)