1)Draw a standard normal density curve to represent each of the following. Use the standard normal distribution table to find the:

a. Area under the curve between z=0 and z = 2.33
b. Area under the curve between z=0 and z = -1.06
c. Area under the curve to the right of z = .28
d. Area under the curve to the left of z = -.53
e. Area under the curve between z=1.26 and z = 2.10

2)Create a sample space of possible outcomes for the following: flipping one coin and rolling an octagonal die. Find the probability of getting a compound event of heads and rolling a 7.

A random study of recent graduates' average grades and degrees showed the following results.

	Grade		
Degree	C	B	A
B.S.	6	9	13
B.A.	5	12	10

3)If a graduate is selected at random, find these probabilities.
The graduate has a B.S. degree, given that he or she has an A average.

a. Given that the graduate has a B.A. degree, the graduate has a C average.
b. What is the probability that a person has a B.S. degree and a B?
c. What is the probability that a graduate has neither an A nor a C.

4)Working Mom’s Journal" reported that the mean time a mother, with her small children, spends in at the convenience store is 7.3 minutes. A sample of 20 moms is chosen from your neighborhood, and it is found that the mean time they spend in a convenience store was 8.2 minutes with a standard deviation of 1.4 minutes. Using , test the claim that the average amount of time a mom and her children $\alpha = .05$ in a convenience store is greater than 7.3 minutes.

a. Determine which test statistic you will use: the standard normal distribution, or the student's t distribution. Explain why you chose this test statistic.
b. Establish the null and alternative hypotheses, state the claim.
c. Test the claim at $\alpha = .05$ and discuss your results, should you reject or not reject the null hypothesis, should you reject or except the claim.

5)From a sample of ten full-time staff, chosen from the education department at your school, it is found that their mean salary is $50,340. Assume the standard deviation of the population is given as $15,320. Find the 95% confidence interval for the population mean, give the margin of error and discuss your results.

6)Create a sample space for tossing a coin four times. Find the probability of getting a simple event of three heads and one tail.

7)Three cards are drawn, without replacement, from a standard deck of fifty-two cards. Find the probability of these events.

a. Getting three kings.
b. Getting a ten, nine, and eight in order.
c. Getting a diamond, heart, and club in order.
d. Getting three diamonds.
e.

8)In a doctor's office there are eight nurses and four physicians. Seven nurses and two physicians are females. If a person is selected from the doctor's office, find the probability that the person is a nurse or a male.

Staff	Females	Males	Total
Nurses	7	1	8
Physicians	2	2	4
Total	9	3	12

9)Discuss type I and type II errors in hypothesis testing. Give an example of each type of error.

10)A retail men’s clothing store owner buys from three companies: X, Y and Z. The recent most purchases are shown here.

Product	Company X	Company Y	Company Z
Shirts	33	26	41
Ties	53	23	38

If one item is selected at random, find these probabilities.

a. It was purchased from company X or is a shirt.
b. It was purchased from company Y or company Z.
c. It is a tie or was purchased from company X.