1. The table below gives the number of pages in 12 elementary statistics texts with the corresponding prices.

x = Pages	560	579	606	607	610	696	730	766	770	788	847	857
y = Price	119.00	151.95	122.00	158.95	107.95	122.00	149.10	166.15	191.00	150.67	182.00	150.67

    a. Sketch a scatterplot.
    b. Describe the distribution of points in terms of form, direction and strength.
    c. Give the correlation coefficient, and interpret it.
    d. Give the equation of the least squares regression line.

$$\hat{y} = \underline{\hspace{4cm}}$$

    e. Use the least squares line to predict the price of a text with 650 pages.

2. The table below summarizes a sample of 1200 adults by hours of TV watched per day, along with their state of physical fitness. Assume we will select one of these adults at random. Compute the probabilities requested below.

Hours of TV	E = Not Physically Fit	F = Physically Fit
$A = 0$	35	147
$B = 1 - 2$	101	629
$C = 3 - 4$	28	222
$D = 5$ or more	4	34

    a. $P(A) = $ _____
    b. $P(E) = $ _____
    c. $P(A \& E) = $ _____
    d. $P(B \& F) = $ _____
    e. $P(E \& F) = $ _____
    f. $P(A \text{ or } E) = $ _____
    g. $P(F|A) = $ _____
    h. $P(F|D) = $ _____
    i. $P(not \text{ B}) = $ _____

3. A box contains 4 red balls and 9 blue balls. Three balls are chosen randomly, without replacement. What is the probability that the first ball is a blue, and the second and third balls are red?

4. A deck of cards has 52 cards, and 13 of these are hearts. Four cards are chosen randomly without replacement. We define the random variable, x, to be the number of hearts drawn. The probability distribution for x is given below with one probability missing.

x	0	1	2	3	4
$P(x)$	0.304	0.439		0.041	0.003

    a. Enter the missing probability into the table above.
    b. If this game were played many times, what would be the mean number of hearts?
    c. What is the standard deviation?
    d. What is the variance?

5. According to Unicef, the worldwide literacy rate is 78%. This means that 78% of all people over the age of 15 can read. In a binomial experiment, we pick 12 people randomly from the earth's population who are over 15 years of age.
    a. What is the probability that exactly 7 of these people can read?
    b. What are the mean and standard deviation of the possible number of readers in such a group?

6. Find the following normal distribution probabilities:
    a. $P(z < 2.59) = $
    b. $P(z > -0.72) = $
    c. $P(1.67 < z < 2.94) = $

7. Find the z-score corresponding to the given information.
    a. The area of the tail to the right of this z-score is approximately 0.03.
    b. This z-score represents, approximately, the 88th percentile.

8. In Zimbabwe, the life expectancy at birth is 37 years, with a standard deviation of 9.25 years. Assuming that these life expectancies are normally distributed, pick one child born in Zimbabwe this year, and let x represent the number of years he or she will live.
    a. $P(x > 50) = $
    b. $P(20 < x < 35) = $

9. Population A contains values, x, with mean and standard deviation are 9 and 3. Population B contains values, y, whose mean and standard deviation are 5 and 4. Give the mean and standard deviation of all values of $x - y$.