CONDITIONAL PROBABILITY

1. A bag contains green, red, and white balls. There are four white balls, each marked differently with a one, two, three, and four. The one red ball is marked with a five. There are five green balls, each marked differently with a six, seven, eight, nine, or ten. A ball is selected at random from the bag.

a) FTPT the ball chosen is green.
b) If the ball chosen is know to be marked with an odd number, FTPT the ball is green.

2. Two dice are rolled and the numbers on the up faces are observed. Find the probability of each of the following:

a) Exactly one die shows a 5, given the sum is seven.
b) The sum of the numbers is seven, given that exactly on die shows a 5.
c) The sum of the numbers is seven, given that at least one die shows a 5.

3. A nail manufacturer makes nails that are advertised to have a length of 15 cm. A quality control test indicates that the probability is 0.71 that the length is 15cm, the probability is 0.18 that the length is less than 15cm, and the probability os 0.11 that the length is more than 15cm. Find, correct to 2 decimal places, the probability that a randomly selected nail that does not have a length of 15cm will have a length of less than 15cm.

4. Two students are selected at random from a group consisting of 5 girls and 3 boys. FTPT both students are girls, given that at least one is a girl.

5. A gad contains six green tiles and three black tiles. A tile is selected and NOT put back. Then a second tile is selected. Find the probability of each of the following:

a) both tiles are green
b) both tiles are black
c) the second tile is green, given the first one is black
d) the first tile is black and the second tile is green
e) one tile is black and the other one is green.