Q1:

The Art Competition has entries from three painters: Pam, Pia and Pablo

Pam put in 15 paintings, 4% of her works have won First Prize.

Pia put in 5 paintings, 6% of her works have won First Prize.

Pablo put in 10 paintings, 3% of his works have won First Prize.

What is the chance that Pam will win First Prize?

Q2:

In Exton School, 60% of the boys play football and 36% of the boys play ice hockey.

Given that 40% of those that play football also play ice hockey, what percent of those that play ice hockey also play football?

Q3:

In Exton School, 40% of the girls like music and 24% of the girls like dance.

Given that 30% of those that like music also like dance, what percent of those that like dance also like music?

Q4:

Wire manufactured by a company is tested for strength.

The test gives a correct positive result with a probability of 0.85 when the wire is strong, but gives an incorrect positive result (false positive) with a probability of 0.04 when in fact the wire is not strong.

If 98% of the wires are strong, and a wire chosen at random fails the test, what is the probability it really is not strong enough?

Q5:

35% of the children in Exton school have a tablet, and 24% have a smart phone.

Given that 42% of those that have smart phone also have a tablet, what percent of those that have a tablet also have a smart phone?

Q6:

A supermarket buys light globes (light bulbs) from three different manufacturers - Brightlight (35%), Glowglobe (20%) and Shinewell (45%).

In the past, the supermarket has found that 1% of Brightlight's globes are faulty, and that 1.5% of each of Glowglobe's and Shinewell's globes are faulty.

A customer buys a globe without looking at the manufacturer's name - in other words, it's a random choice. When she gets home, she finds the globe is faulty.

What is the probability she chose a Shinewell's globe?

Q7:

Marie is getting married tomorrow, at an outdoor ceremony in the desert. In recent years, it has rained only 5 days each year. Unfortunately, the weatherman has predicted rain for tomorrow. When it actually rains, the weatherman correctly forecasts rain 90% of the time. When it doesn't rain, he incorrectly forecasts rain 10% of the time. What is the probability that it will rain on the day of Marie's wedding?