Year 12 Probability Worksheet

1. A card is picked up at random from a pack of 52 cards. Find the probability that it is a king or queen.

2. A family has 2 children. Find the probability that both are boys, if it is known that at least one of the children in a boy.

3. A bag contains 4 balls. Two balls are drawn at random, and are found to be white. What is the probability that all balls are white?

4. In a mix of red and white pebbles in a bag in the ratio of 3 to 7. Find the probability that if 3 pebbles are chosen from the mixture at least one is white.

5. Given the following options, you should prefer which option (i) sure gain of $300 or (ii) 20% chance of gaining $1000 and 70% chance of gaining nothing.

6. A pair of dice is thrown 4 times. If getting a doublet is considered a success, find the probability distribution of the number of successes.

7. On a multiple choice examination with three possible answers (out of which only one is correct) for each of the five questions, what is the probability that a candidate would get four or more correct answers just by guessing?

8. A card from a pack of 52 cards is lost. From the remaining cards of the pack, two cards are drawn at random and are found to both clubs. Find the probability of the lost card being of clubs.

9. From a lot of 10 bulbs, which includes 3 defectives, a sample of 2 bulbs is drawn at random. Find the probability distribution of the number of defective bulbs.

10. An insurance company insured 2000 scooter drivers, 4000 car drivers and 6000 truck drivers. The probability of an accident involving a scooter, a car and a truck are 0.01, 0.03 and 0.15 respectively. One of the insured persons meets with an accident. What is the probability that he is a scooter driver?