HOLY TRINITY PREPARATORY SCHOOL

Mathematics Worksheet

GRADE 11 ***Counting Principles and Probability PREPARED by Seb z-Ab***

1. A car license plate consists of 7 characters. The first 4 characters are numerals from 0 to 9. The last 3 characters are letters excluding I, O, and X. How many different license plates are possible?

2. Suppose that the first 3 letters (A, B, and C) and the number digits are to be used to form car plates in a small town. How many different plates can be formed in total that contains 1, 2, or 3 letters and then followed by 3 digits?

3. A three – digit library identification card is to be printed from the numbers 0, 1, 2, 3, 4, 5 in such a way that the first is non – zero and no number is to be repeated. How many such cards can be printed?

4. How many four – digit numbers can be formed from the digits 1, 2, 3, 5, 7, 8 and 9 where a digit is used at most once?

a) if the numbers must be even?

b if the numbers are less than 4000?

Repeat these questions if repetition is allowed.

Holy Trinity Math

5. On English quiz having 10 multiple choice questions, 3 answers are A, 2 answers are B, 2 answers are C, 1 answer is D, and 2 answers are E. How many different answer keys are possible?

6. In how many ways are the letters in the word "Coronavirus" arranged?

7. If distinct codes of eight letters are formed by rearranging the letters in the word 'ABBEBAYE', how many of the codes begin with B or Y?

8. A company produced 25, 000 bulbs and randomly tested 2% of the product. Among the tested bulbs, if 40 have defect of type D1, 60 have defect of type D2 and 25 have both types of defects, what is the probability that a bulb produced by the company has none of the defects?

9. There are 4 black, 2 red and 4 white balls in a box. If three balls are selected at random what is the probability that a) all the balls selected are black? b) all the balls are of different color? c) at least one ball is white? d) at most 1 ball is red?

10. There are 3 red and 9 green balls in a box. What is the probability of drawing at random without replacement green then another green? 11. If a die and two coins are tossed together, what is the