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WORKSHEET 27

SCHOOL: BA SANGAM COLLEGE
SUBJECT: MATHEMATICS

YEAR: 10
NAME OF STUDENT: _____

STRAND	6- PROBABILITY
SUB-STRAND	6.4 Probability Formula
LEARNING OUTCOME	To calculate probability of any event using real life examples

Properties Of Probability

i. The probability of an event can only be between 0 and 1.

$$0 \leq P(A) \leq 1$$

In other words, the highest probability an event can have is 1 or 100% (certain to happen) and the lowest probability is 0 (certain not to happen). Probabilities between 0 and 1 mean that the event might happen; the higher the probability, the greater the chance that it will happen.

ii. The sum of the probabilities of an event and its complementary is 1, so the probability of the complementary event is: iii. The probability of an impossible event is zero.

$$P(\bar{A}) = 1 - P(A)$$

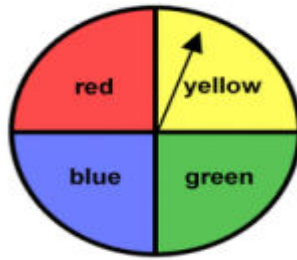
iii. The probability of an impossible event is zero.

$$P(\emptyset) = 0$$

Application Of Probability

Here are some of the common categories to discuss:

- **Sports** – be it basketball or football and coin is tossed and both teams have 50/50 chances of winning it, a basketball player takes a free throw judging his past performance it can be determined if he will make it or not.
- **Board Games** – a game spinner with four sections, there is a 25% chance of it landing blue, since one of the 4 sections is blue. Similarly, the odds of rolling one die and getting an odd number there is a 50% chance since three of the six numbers on a die are odd.



- **Medical Decisions** – When a patient is advised to undergo surgery, they often want to know the success rate of the operation which is nothing but a probability rate. Based on the same the patient takes a decision whether or not to go ahead with the same.
- **Life Expectancy** – this is based on the number of years the same groups of people have lived in the past. “These ages are used as guidelines by entities such as financial advisers to help clients prepare for their retirement years.”
- **Weather** – when planning an outdoor activity, people generally check the probability of rain. Meteorologists also predict the weather based on the patterns of the previous year, temperatures and natural disasters are also predicted on probability and nothing is ever stated as a surety but a possibility and an approximation.

EXERCISE

1. Calculate the probability of obtaining the following outcomes when rolling a die:
 - i. An even number.
 - ii. A multiple of three.
 - iii. A five or a six.

2. A lollie was picked from a bag that contains 1 blue lollie, 1 red lollie and 1 orange lollie.
 - a. List the sample space
 - b. What is the probability of picking a red lollie?
 - c. What is the probability of picking a lollie that is not red?
 - d. What is the probability of picking a white lollie?

END OF COVERAGE