Grade 8 - Week 8

Name: _____ Gr. & Sec.: _____

Name of Teacher: _____ Score: _____

MASTER ME

At the end of this activity, you will be able to:
   a. find the probability of simple events;
   b. illustrate an experimental probability and a theoretical probability; and
   c. solve problems involving probabilities of simple events.

Remember this:

The **probability of an event** is the number of favorable outcomes divided by the total number of outcomes possible denoted as:

$$P(event) = \frac{Number\ of\ favorable\ outcomes}{Number\ of\ all\ outcomes}$$

Experimental probability is the ratio of the number of times an event occurs to the total number of trials or times the activity is performed. It refers to the probability of an event occurring when an experiment was conducted. The probability of an event is being determined through an actual experiment. Mathematically,

$$Experimental\ Probability = \frac{Number\ of\ events\ occurences}{Total\ Number\ of\ Trials}$$

A coin is tossed 10 times. A head is recorded 3 times and a tail 7 times, hence

$$P(head) = \frac{3}{10} \quad and \quad P(tail) = \frac{7}{10}$$

Theoretical Probability is the likeliness of an event happening based on all the possible outcomes. The ratio for the probability of an event 'P' occurring is P (event) = number of favorable outcomes divided by number of possible outcomes. Theoretical probability is determined by noting all the possible outcomes theoretically, and determining how likely the given outcome will occur. Mathematically,

$$Theoretical\ Probability = \frac{Number\ of\ events\ occurences}{Total\ number\ of\ equally\ likely\ outcomes}$$

A coin is tossed. $\quad P(head) = \frac{1}{2} \quad and \quad P(tail) = \frac{1}{2}$

ACT ON

There are 4 blue marbles, 5 red marbles in a box,
1 green marble and 2 black marbles in a box. Suppose you
select one marble at random.

12 Marbles total
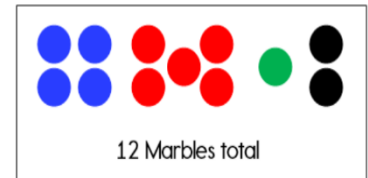
1. What is the probability that the marble chosen is blue? _____
2. What is the probability that the marble chosen is red? _____
3. What is the probability that the marble chosen is green? _____
4. What is the probability that the marble chosen is black? _____
5. What is the probability that the marble chosen is not green? _____

TRY MORE

A. Determine the experimental probability of the following:

1. Renz flipped a coin 20 times and got heads in 8 of the flips and tails
    12 times. Based on the results, what is the probability of the coin landing on head? tails?
        P(heads)= _____   P(tails) = _____

2. A cube is rolled 100 times, "5" appears 50 times   and "4" appeared 10 times.
    Find the probability of getting "5" and the probability of getting "4".
        P(5) = _____   P(4) = _____

3. The table shows the result of a spinner experiment. Find:
    P (spinning 4) = _____   P (spinning 1 and 2) = _____

Number	Occurrences
1	6
2	11
3	19
4	14

B. Determine the theoretical probability of the following:

4. A coin is tossed and a six – sided die is rolled. Find:
    P (getting a tail on the coin) = _____   P (picking a 6 on the die) = _____

5. From the word CORONAVIRUS, find
    P (A) = _____   P (O) = _____

HARNESS SKILL
Solve the following problems with a complete solution on the space provided.

A. Christian Dayne drew a random set of cards from a well -shuffled deck of 52 playing
    cards. He recorded the suit of cards that he picked; results are shown in the table below.

DECK OF CARDS	Tally
Club	ʶʰʶ - |||
spade	ʶʰʶ - ʶʰʶ - |||
Heart	ʶʰʶ - ||
Diamond	||||
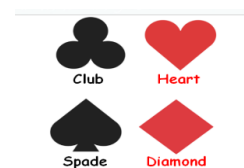
1. Based on the results, what is the experimental probability of selecting a diamond?

_____

2. What is the theoretical probability of selecting a spade?

B. A card was drawn randomly from a well shuffled pack of 52 cards. What is the probability that the drawn card is king? Show your solutions.

C. Mang Jun harvested fruits from his fruit farm in San Francisco, General Trias City. He got 50 ripe mangoes, 25 guavas, 30 avocados and 20 atis. If Maureen asked for one fruit, what is the probability that Mang Jun will give her –

a) mangoes?	b) guavas?	c) avocados?	d) atis?
Show your answer here:			

Scoring Rubrics for solving problems.

Scores	Descriptions
5 Points	The process, computation and answer are completely correct.
4 Points	The process and computation are generally complete but the answer may contain minor flaws.
3 Points	The process and computations are generally incomplete and the answer is not correct.
2 Points	The student tried to work on the problem but the answer is still incorrect.
1 Point	The student does not show any appropriate steps to solve the problems.

References
1. "Localized and Contextualized Teaching Guides." Department of Education-Division of Cavite
2. "Grade 8 – Mathematics Learner' Modules ."Department of Education- Division of Cavite