LEARNING AS ONE NATION
Expanded Project

Math 10_41

JHS LEARNING ACTIVITY

Name: _____ **Grade/Score:** _____
Year and Section: _____ **Date:** _____

Subject *(Check or choose from below.)*_____

- ☐ Religion/Values Education
- ☐ Natural Sciences
- ☐ Araling Panlipunan
- ☐ Filipino
- ☐ English
- ☐ Math
- ☐ TLE / ICT
- ☐ MAPEH
- ☐ CAdT

Type of Activity *(Check or choose from below.)*_____

- ☐ Concept Notes
- ☐ Skills: Exercise / Drill
- ☐ Laboratory Report
- ☐ Illustration
- ☐ Formal Theme
- ☐ Informal Theme
- ☐ Others: _____

Activity Title: Solving the Probability of the Union of Two Events

Learning Target: To solve for the probability of the union of events

References: *(Author, Title, Pages)*
https://www3.nd.edu/dgalvin1/10120/10120_S17/Topic10_7p3_Galvin_2017_short.pdf
D.J. Acedo, CVIF Learning Activities

The union of two events A and B, denoted as $A \cup B$, is the event consisting of those outcomes which are in at least one of the two events, that is, those outcomes are in either A or B or both.

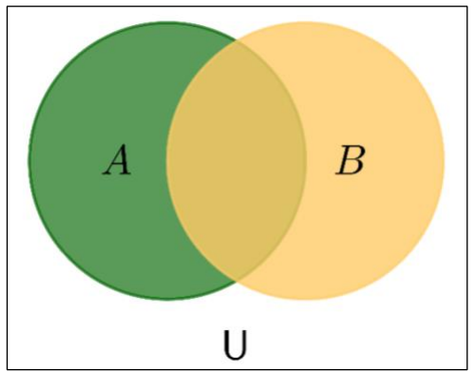

Figure 1. The Union of Events A and B

Example: Shawn rolled a fair die and wished to find the probability of getting an odd number or a number divisible by 5.

Solution:

Sample space for a die is:

$S = \{1, 2, 3, 4, 5, 6\}$

Let A = the event that an odd number occurs

Let B = the event that a number divisible by 5 occurs

Thus, $A = \{1, 3, 5\}$, $B = \{5\}$ and $(A \cap B) = \{5\}$

To find the union of events A and B, we have,

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$
$$= \frac{3}{6} + \frac{1}{6} - \frac{1}{6}$$
$$= \frac{4}{6} - \frac{1}{6}$$
$$P(A \cup B) = \frac{3}{6} = \frac{1}{2}$$

Exercise: Solve the following and determine what is asked.

A student is randomly selected from a Junior High School Math club composed of 40 students (with 5 girls and 5 boys representing each grade) to join the inter-school Math competition. What is the probability of getting a Grade 10 or a female student?