NAME _____ QUARTER 1

GRADE & SECTION _____ DATE _____

# Activity: Set and Set Operations

A. Identify what is being described in each statement. Choose from the options found below.

1. The number of elements in a set.
2. It is the set without any element.
3. It contains all common elements in two (or more) sets.
4. This is a set with a definite number of elements.
5. It contains elements that are not in the given set.

**ANSWER BANK**

| | | | |
|---|---|---|---|
| universal set | finite | cardinality | union |
| null set | infinite | subset | intersection |
| | complement | difference | |

B. Determine the cardinality of each set. If the set is infinite, write INF.

1. The set containing counting numbers.
2. The set containing even counting numbers less than 20.
3. The set containing the presidents of the Philippines.
4. $M = \{x | x \text{ is a prime number less than } 20\}$.
5. $N = \{x | x \text{ is a country in South East Asia}\}$.



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C. Given the following sets, identify the elements of the sets under an operation in each item. Choose from the options to the right of the set.

$\mathcal{U} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

$X = \{1, 3, 5, 7, 9\}$

$Y = \{2, 4, 6, 8, 10\}$

$Z = \{2, 3, 5, 7\}$

| | | |
|---|---|---|
| $X \cup Z =$ | ○ $\{3,5,7\}$ | ○ $\{1,2,3,5,7,9\}$ |
| $Y \cap Z =$ | ○ $\{2\}$ | ○ $\{3,5,7\}$ |
| $X \cap Y =$ | ○ $\emptyset$ | ○ $\mathcal{U}$ |
| $Y - Z =$ | ○ $\{3,5,7\}$ | ○ $\{4,6,8,10\}$ |
| $Z - Y =$ | ○ $\{3,5,7\}$ | ○ $\{4,6,8,10\}$ |
| $X' =$ | ○ $Y$ | ○ $Z$ |



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