

NAME \_\_\_\_\_ DATE \_\_\_\_\_

## EQUAL, EQUIVALENT and EMPTY SETS

### Activity 4

**Equal sets** have the **same elements**. E.g. {2, 3, 5, 6} and {6,3,2,5}

**Equivalent sets** have the **same number of elements**. E.g. {1, 2, 3, 4,5} and {a, b, c, d, e}

**Empty or null sets** have **zero elements**. E.g. {days of the week beginning with 'p'}

#### A. State which of the sets are empty, equal, or equivalent.

1. {m, o, m} and {4, 5, 6} \_\_\_\_\_
2. {8, 6, 7, 13} and {6, 7, 8,11} \_\_\_\_\_
3. {vowels} and {a, e, i, o, u} \_\_\_\_\_
4. { multiples of 12 between 13 and 23} = \_\_\_\_\_
5. {children who have travelled to the moon} = \_\_\_\_\_

The **CARDINALITY** of a set is the number of elements belonging to the set.

e. g.  $V = \{\text{vowels}\}$  and  $V = \{a, e, i, o, u\}$  Therefore, no. of elements in  $V$ ,  $n(V) = 5$

e. g.  $P = \{\text{parrot, penguin, pigeon}\}$  Therefore, no. of elements in  $P$ ,  $n(P) = 3$

#### B. State the cardinality for the following sets.

*(Click the down arrow in the space to access the choices.)*

1.  $F = \{\text{players on a football team}\}$  ,  $n(F) =$  \_\_\_\_\_
2.  $M = \{\text{Mazda, Toyota, Mercedes, Kia, Volvo}\}$ ,  $n(M) =$  \_\_\_\_\_
3.  $N = \{1, 2, 3, 4, 6, 8, 12, 24\}$ ,  $n(N) =$  \_\_\_\_\_
4.  $F = \{\text{portugal, cherry, mango}\}$ ,  $n(F) =$  \_\_\_\_\_
5.  $J = \{1,4,9,16,25,36,49,64,81\}$ ,  $n(J) =$  \_\_\_\_\_