Lesson 2.3.1: Representations of Relations

- **Relation**: any set of ordered pairs
- **Domain**: the set of first coordinates of a relation
- **Range**: the set of second coordinates of a relation

How to Represent Relations?

1. Ordered Pairs
2. Table
3. Mapping Diagram
4. Graph
5. Rule

What are the Types of Correspondence of Relations?

1. One-to-one Correspondence: Each element in the first set is paired with exactly one element in the second set.
2. Many-to-one Correspondence: Many elements in the first set are paired with the same elements in the second set.
3. One-to-many Correspondence: One element of the first set is paired with different elements in the second set.

Practice Exercises 2.3.1

A. For each situation, determine the relation and express it using the five representations.

1. Every weekend, James pays an amount of ₱50.00 per hour for renting a basketball court with his best friends. They enjoy playing basketball and spent 5 hours, especially if they are in a good mood.
2. During weekends, Christian plays online games. He spends 5 hours a day in the computer rentals amounting to ₱20.00 per hour.

B. For each relation, determine the domain, range, and kind of pairing, then graph the relation.

1. {(1, 1), (2, 2), (3, 3), (4, 4)}
2. {(4, 3), (-2, 4), (5, -1), (2, 6)}
3. {(-1, 0), (-1, 1), (-1, 2), (-1, 3)}

Activity 2.3.1

A. For the following situation, determine the relation and express it using ordered pairs and table.

1. Suppose the bicycle rental at the Rizal Park is worth ₱20 per hour. Your sister would like to rent a bicycle for four hours.

B. For each relation, determine the domain, range, and kind of pairing.

1. {(0, 2), (1, 3), (2, 4), (3, 5), (4,6)}
2. {(0, 2), (0,4), (0, 6), (0, 8), (0, 10)}
3. {(-5, -2), (-2, -2), (1, 0), (4, 2), (7, 2)}

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