**SOLUTION OF AN EQUATION** containing two variables, and , is any ordered pair that makes the equation true.

**ORDERED PAIR** – is a set of numbers or coordinates written in the form. It can be used to show the position on a graph, where the (horizontal) value is first, and the (vertical) value is second.

**Sample Problem 1: Tell whether the given order pair is a solution of each equation.**

1. Is a solution of the equation?
2. Is a solution of the equation?
3. Is a solution of the equation?

There are various ways to show the relationship between two variables:

1. Create a **TABLE** to show the corresponding values of x and y,

**Example**: John is three years younger than his brother Matthew. Construct a table that represents their age.

|  |  |
| --- | --- |
| **John** | **Matthew** |
|  |  |
|  |  |
|  |  |
|  |  |

1. Write an **EQUATION**, or.

**Example:** John is three years younger than his brother Matthew. Write an equation that represents their age.

Let : =John’s age =Matthew’s age

1. Draw a **GRAPH**.

**COORDINATE SYSTEM** is a two-dimensional number line. This is a typical coordinate system: The horizontal axis is called the axis and the vertical axis is called the axis

axis

axis

**Example:** John is three years younger than his brother Matthew. Draw a graph that represents their age.

**John’s age**

**Matthew's age**

**Sample Problem 2:** Use a table, an equation, and a graph to represent the relationship of Mary’s and Ann’s age.

|  |  |  |
| --- | --- | --- |
| **Mary is 2 years older than Ann.** | | **Ann’s age**  **Mary's age** |
| **Mary** | **Ann** |
|  |  |
|  |  |
|  |  |
|  |  |
| Let :  =John’s age  =Mary’s age | |

**INDUCTIVE REASONING** is the process of reaching a conclusion based on an observed pattern. It is used to predict values.

**Example 4:** Predict the next figure in the given sequence.

**Sample Problem 3:** Predict the next figure in the each sequence.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  | i. | ii. | iii. | iv. |
|  |  |  |  |  |
|  | i. | ii. | iii. | iv. |
|  |  |  |  |  |
|  | i. | ii. | iii. | iv. |