Graphing Functions

Introduction

A function represents the relationship between two variables, typically x and y. The **graph of a function** is a visual representation of its values.

Steps to Graph a Function

1. Identify key points (intercepts, vertex, asymptotes).
2. Determine the domain and range.
3. Plot points and connect them smoothly.

Common Types of Functions

1. **Linear Function:** y = mx + b (straight line)
2. **Quadratic Function:** y = ax^2 + bx + c (parabola)
3. **Exponential Function:** y = a * b^x

Example

Graph y = x^2 - 4.

- **Vertex**: (0, -4)
- **X-intercepts**: Solve x^2 - 4 = 0 -> x = +/-2
- **Y-intercept**: y = -4