4 Lecture - MTH101

Important Subjective

1. What is a line in mathematics?

A line is a basic geometric object that is defined by two points.

2. What is the slope of a line?

The slope of a line is a measure of how steep the line is. It is defined as the change in the y-coordinate divided by the change in the x-coordinate between two points on the line.

3. Can the slope of a line be negative?

Yes, the slope of a line can be negative. A line with a negative slope falls as it moves to the right.

4. What is the y-intercept of a line?

The y-intercept is the point at which the line crosses the y-axis. It is defined as the value of y when x is equal to zero.

5. What is the slope-intercept form of the equation of a line?

The slope-intercept form of the equation of a line is y = mx + b, where m is the slope of the line and b is the y-intercept.

6. How can you determine the slope of a line from its equation?

The slope of a line can be determined from its equation by identifying the coefficient of x in the equation.

7. What is the tangent line to a function?

The tangent line is a line that touches the graph of a function at a given point and has the same slope as the function at that point.

8. How can the equation of a line be used to determine the intersection points of two lines?

The equation of a line can be used to determine the intersection points of two lines by setting the equations of the two lines equal to each other and solving for the x and y values.

9. Can a line intersect a circle at more than one point?

Yes, a line can intersect a circle at more than one point.

10. How is the derivative of a function related to the slope of the function?

The derivative of a function is related to the slope of the function because it is defined as the rate at which the function changes with respect to its input. The derivative of a linear function is simply its slope.