

# 8 Lecture - MTH101

## Important Mcqs

1. **Which axis represents the independent variable or input values in a graph?**
- x-axis
  - y-axis
  - origin
  - none of the above

**Answer: a. x-axis**

2. **What is the purpose of graphing functions?**
- To visualize the behavior of a function
  - To solve equations
  - To memorize formulas
  - None of the above

**Answer: a. To visualize the behavior of a function**

3. **How do we find the x-intercepts of a function?**
- Set the function equal to zero and solve for x
  - Set x equal to zero and solve for y
  - Take the derivative of the function
  - None of the above

**Answer: a. Set the function equal to zero and solve for x**

4. **Which type of function has a minimum at its vertex with a positive leading coefficient?**
- Even-degree functions
  - Odd-degree functions
  - Both even-degree and odd-degree functions
  - None of the above

**Answer: a. Even-degree functions**

5. **Which type of function has a maximum at its vertex with a negative leading coefficient?**
- Even-degree functions
  - Odd-degree functions
  - Both even-degree and odd-degree functions
  - None of the above

**Answer: a. Even-degree functions**

6. **Which type of function is symmetric about the y-axis?**
- Even functions
  - Odd functions

- c. Both even and odd functions
- d. None of the above

**Answer: a. Even functions**

7. **Which type of function is symmetric about the origin?**
- a. Even functions
  - b. Odd functions
  - c. Both even and odd functions
  - d. None of the above

**Answer: b. Odd functions**

8. **What are the critical points?**
- a. The points where the function is equal to zero
  - b. The points where the derivative is equal to zero or does not exist
  - c. The points where the function intersects the y-axis
  - d. None of the above

**Answer: b. The points where the derivative is equal to zero or does not exist**

9. **How do we determine the location of local extrema?**
- a. We test the sign of the derivative on either side of the critical point
  - b. We test the sign of the second derivative on either side of the critical point
  - c. We set the derivative equal to zero and solve for  $x$
  - d. None of the above

**Answer: a. We test the sign of the derivative on either side of the critical point**

10. **How do we determine the location of inflection points?**
- a. We test the sign of the derivative on either side of the critical point
  - b. We test the sign of the second derivative on either side of the critical point
  - c. We set the second derivative equal to zero and solve for  $x$
  - d. None of the above

**Answer: b. We test the sign of the second derivative on either side of the critical point**