**Discriminant**

## Introduction

The Discriminant:

|  |  |  |
| --- | --- | --- |
| Type of roots |  | Graph |
| 1 Real roots and distinct roots Curve cuts **line at 2 points** |  |  |
| 2 Real roots and equal roots Curve is at **tangent at line** |  |  |
| 3 No Real roots Curve is **does not meet line**  Equation **is always positive** |  |  |
| 4 Real roots **Lines meets curve** |  |  |

## Exercise – Discriminant and Nature of Roots

|  |  |
| --- | --- |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |

## Exercise – Discriminant and Nature of Intersection between line and curves

|  |  |
| --- | --- |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |

## Exercise – Show the Nature of roots or y > 0

|  |  |
| --- | --- |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |

## Exercise – Show the Nature of roots or y > 0

|  |  |
| --- | --- |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |