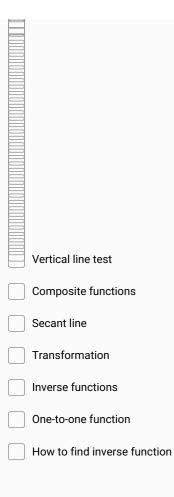
# May 22, 2019 FOC Revision



## Chapter 1



### Chapter 2

- Definition of a limit
- Concept of a limit
- One-sided/Two-sided limits
- Understand and be able to use limit laws
- Squeeze theorem
- Definition of infinite limits
- Limits at infinity
- Continuity
- Theorems of continuity
- Continuity on an interval

#### **Chapter 3**

|           | Geometric meaning of tangent line and derivatives        |
|-----------|--|
|           | Definition of derivatives                                |
|           | Relation between differentiable and continuous functions |
| $\square$ | Rules of differentiation                                 |

Implicit differentiation

#### **Chapter 4**

Absolute maximum and minimum
Local max and min
Local extreme point theorem
Definition of critical points and how to find them
Test for intervals of increase and decrease
First derivative test
Concavity and inflection point
Test for concavity
Second derivative test used to identify local max and min
Be able to solve optimisation problem
Definition of linear approximation to f at 0
Mean value theorem
L'Hopital's rule
Antiderivative

#### **Chapter 5**

Geometric meaning of integration
Regular partition, grid points
Riermann sum and all variants
Definite integral
Net area
Reversing limit and identical limit
Be able to use fundamental theorems of calculus to compute definite integral
Integrals of even and odd functions
Substitution rule

#### Chapter 6

Area of a region between functions

## Chapter 7

Integration by parts

Definition of improper integrals

## Make and Share Free Checklists checkli.com