

# MA 123 A1 – Calculus I

## Review of Pre-Calculus

- a. Quadratic equations
- b. Exponentials and logarithms
- c. Trigonometry

## Limits and derivatives

- a. Introduction to limits
  - b. Continuity
  - c. Definition and basic properties of derivatives
- a)

## Applications of derivatives

- a. Exponential, log and trigonometric functions
- b. Product, quotient and chain rule
- c. Implicit and logarithmic differentiation
- d. Related rates and optimization
- e. Qualitative implications of the derivative, graphing  
L'Hospital's Rule

## Anti-differentiation and integration

- a. Anti-derivatives
- b. Substitution
- c. Growth and decay differential equations
- d. Definite integral
- e. Fundamental Theorem of Calculus