

# 1 Primality Testing

## 1.1 The Sieve of Eratosthenes

## 1.2 Primality Tests and Composite Tests

## 1.3 Fermat's Theorem and Resulting Methods

### 1.3.1 Fermat's Theorem

### 1.3.2 Pseudoprimes and Carmichael Numbers

### 1.3.3 Computational Viability of Fermat's Theorem Methods

### 1.3.4 Improvements due to Eulers Criterion

### 1.3.5 Euler Pseudoprimes

### 1.3.6 Strong Pseudoprimes

### 1.3.7 Implementation of a Strong Pseudoprime Test

### 1.3.8 Remarks and Numerical Data