# M1C03 Lecture 33
$\sqrt{2}$

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# Announcement(s)

1. Assignment 5 due Wednesday
2. Exam review in class on Wednesday

**Reference:** Lakins, Section 9.1, 9.2, 9.3.

### Theorem

*There exists a positive real number that solves the equation*

$$x^2 = 2.$$

# $\sqrt{2}$ is irrational

### Theorem

$\sqrt{2}$ *is not a rational number.*

### Theorem

*For all real numbers $a, b$, $0 < a < b$, there exists a positive integer $n$ such that $na > b$.*