

# Lectures on Challenging Mathematics

RCV

## Introduction to Analytic geometry and vector operations

Fall 2017

Zuming Feng

Phillips Exeter Academy and IDEA Math

zfeng@exeter.edu

©Copyright 2008 – 2017 Idea Math

*“Cogito ergo Sum” – “I think, therefore I am”*

René Descartes (1596-1650)

©Copyright 2008 – 2017 Idea Math

Idea Math

Internal Use

# Contents

©Copyright 2008 – 2017 Idea Math

<b>1</b>	<b>Linear parametric equation and vector operations</b>	<b>1</b>
1.1	Linear parametric equations (part 1)	1
1.2	Linear parametric equations (part 2)	3
1.3	Linear parametric equations (part 3)	4
1.4	Vector motion (part 1)	5
1.5	Lattice points (part 1)	7
1.6	Linear parametric equations (part 4)	8
1.7	Vector motion (part 2)	9
1.8	Lattice points (part 2)	10
1.9	Linear parametric equations (part 5)	11
1.10	3-D rectangular coordinates (part 1)	12
1.11	Vector motion (part 3)	13
1.12	Lattice points (part 3)	14
1.13	3-D rectangular coordinates (part 2)	15
1.14	Vector motion (part 4)	16
1.15	Lattice points (part 4)	17
1.16	Vector motion (part 5)	18
1.17	Lattice points (part 5)	19
1.18	Mixed exercises (part 1)	20
1.19	Vector motion (part 6)	21
1.20	Linear parametric equations (part 6)	22
1.21	3-D rectangular coordinates and linear equation (part 1)	23
1.22	Vector motion (part 7)	24
1.23	Linear parametric equations (part 7)	25
1.24	Mixed exercises (part 2)	26
1.25	Vector motion (part 8)	27
1.26	Linear parametric equations (part 8)	28
1.27	3-D rectangular coordinates and linear equation (part 2)	29
1.28	Mixed exercises (part 3)	30
1.29	Mixed exercises (part 4)	31
1.30	Mixed exercises (part 5)	32