ACHIEVERS ARC

2027 SEC 4 E MATH LESSON PLAN

SEMESTER 1 (NOV - JAN)

LESSON	LESSON NAME	LEARNING OBJECTIVES
1	Set Language and Notation	1) Be able to represent sets using set notations and venn diagrams. 2) Be able to find the complement, intersection and union of sets. 3) Be able to draw venn diagrams to represent relationships between two sets.
2		
3		
4	Data Analysis - Measures of Spread	1) Be able to find the quartiles and percentiles of a data distribution. 2) Be able to find the range, standard deviation and interquartile range given a set of data. 3) Be able to analyse and interpret cumulative diagrams and box-and-whiskers plots. 4) Be able to compare two sets of data using mean and standard deviation.
5		
6		
7	Probability	1) Be able to compute the probability of simple combined events using a probability or tree diagram. 2) Be able to identify and apply the addition law of probabilities for mutually exclusive events. 3) Be able to identify independent and dependent events. 4) Understand the multiplication law of probability and its application to dependent and independent events. 5) Be able to apply concepts of probability to various real world scenarios.
8		
9		

ACHIEVERS ARC

2027 SEC 4 E MATH LESSON PLAN

SEMESTER 2 (JAN - APR)

LESSON	LESSON NAME	LEARNING OBJECTIVES
1	Revision Chapters 1 to 3	
2		
3	Matrices	1) Understand what are matrices and be able to display information in the form of matrices. 2) Be able to determine the order of a matrix. 3) Be able to interpret the data in a gievn matrix. 4) Be able to perform addition, subtraction, scalar multiplication and multiplication on matrices. 5) Be able to solve real world problems using matrices.
4		
5		
6		
7	Vectors in Two Dimensions	1) Be able to distinguish between a vector and a scalar. 2) Be able to represent and find a vector using appropriate notations. 3) Be able to perform addition, subtraction and scalar multiplication on vectors. 4) Be able to use vectors to solve various geometric problems.
8		
9		
10		
11	Mid Year Examination Mock Test	

ACHIEVERS ARC

2027 SEC 4 E MATH LESSON PLAN

SEMESTER 3 (APR – AUG)

LESSON	LESSON NAME	LEARNING OBJECTIVES
1	Revision: Numbers and Percentage	
2	Revision: Ratio and Proportion	
3	Revision: Rate and Speed	
4	Revision: Algebraic Manipulation and Formulas	
5		
6	Revision: Equations and Inequalities	
7	Revision: Coordinate Geometry, Functions and graphs	
8		
9	Revision: Angles, Polygons, Congruence and Similarity	
10		
11	Revision: Geometrical Constructions	
12	Revision: Pythagoras' Theorem and Trigonometry	

ACHIEVERS ARC

2027 SEC 4 E MATH LESSON PLAN

SEMESTER 4 (AUG – OCT)

LESSON	LESSON NAME	LEARNING OBJECTIVES
1	Revision: Pythagoras' Theorem and Trigonometry	
2	Revision: Mensuration	
3	Revision: Properties of Circles	
4		
5	Revision: Set Language and Matrices	
6		
7	Revision: Vectors in Two Dimensions	
8		
9	Revision: Statistics and Probability	
10	End of Year Examination Mock Test 1	
11	End of Year Examination Mock Test 2	

ACHIEVERS ARC

2027 中四年级 (初级数学) 课程表

第 1 学期（11 月 至 1 月）

课	标题	教学目标
1	集合语言与符号	**1)** 能够使用集合符号与维恩图表示集合。 **2)** 能够求集合的补集、交集与并集。 **3)** 能够绘制维恩图来表示两个集合之间的关系。
2		
3		
4	数据分析 — 离散程度的度量	**1)** 能够求数据分布的四分位数与百分位数。 **2)** 能够根据数据求极差、标准差与四分位距。 **3)** 能够分析并解释累积频率图与箱形图（箱须图）。 **4)** 能够利用均值与标准差比较两组数据。
5		
6		
7	概率	**1)** 能够利用概率表或树状图计算简单组合事件的概率。 **2)** 能够识别并应用互斥事件的概率加法法则。 **3)** 能够识别独立事件与相关事件。 **4)** 理解概率乘法法则及其在独立与相关事件中的应用。 **5)** 能够将概率概念应用于各种现实情境。
8		
9		

ACHIEVERS ARC

2027 中四年级 (初级数学) 课程表

第 2 学期（1 月 至 4 月）

课	标题	教学目标
1	专题练习 1 - 3	
2		
3	矩阵	• 理解什么是矩阵，并能够用矩阵形式表示信息。 • 能够确定矩阵的阶数。 • 能够解读给定矩阵中的数据。 • 能够对矩阵进行加法、减法、数乘与矩阵乘法运算。 • 能够使用矩阵解决实际生活中的问题。
4		
5		
6		
7	二维向量	• 能够区分向量与标量。 • 能够使用合适的符号表示并求出一个向量。 • 能够对向量进行加法、减法和数乘运算。 • 能够使用向量解决各种几何问题。
8		
9		
10		
11	年中考试模拟试卷	

ACHIEVERS ARC

2027 中四年级 (初级数学) 课程表

第 3 学期（4 月 至 8 月）

课	标题	教学目标
1	复习：数与百分比	
2	复习：比与比例	
3	复习：速度与率	
4	复习：代数运算与公式	
5		
6	复习：方程与不等式	
7	复习：坐标几何、函数与图像	
8		
9	复习：角、 多边形、全等与相似	
10		
11	复习：几何作图	
12	复习：毕达哥拉斯定理与三角学	

ACHIEVERS ARC

2027 中四年级 (初级数学) 课程表

第 4 学期（8 月 至 10 月）

课	标题	教学目标
1	复习：毕达哥拉斯定理与三角学	
2	复习：测量（几何度量）	
3	复习：圆的性质	
4		
5	复习：集合语言与矩阵	
6		
7	复习：二维向量	
8		
9	复习：统计与概率	
10	年终考试模拟试卷 1	
11	年终考试模拟试卷 2	