

MARINA INTERNATIONAL SCHOOL

CORE MATHEMATICS SCHEME OF WORK

FORM 5 - TERM 1

WEEK	TOPIC	TOPIC DETAILS
1.1	SET	Understand notation of Venn diagrams.
1.2	SET	Definition of sets
1.3	SET	Number of elements in set A $n(A)$
1.4	SET	Universal set
2.1	SET	Union of A and B $A \cup B$
2.2	SET	Intersection of A and B $A \cap B$
3.1	PERCENTAGES	Calculate a given percentage of a quantity.
3.2	PERCENTAGES	Express one quantity as a percentage of another.
3.3	PERCENTAGES	Calculate percentage increase or decrease.
4.1	SIMPLE AND COMPOUND INTEREST	Calculate using money and convert from one currency to another. Includes discount, profit and loss.
4.2	SIMPLE AND COMPOUND INTEREST	Use given data to solve problems on personal and household finance involving earnings, simple interest and compound interest. Note: Knowledge of compound interest formula is required
4.3	SIMPLE AND COMPOUND INTEREST	Extract data from tables and charts.
5.1	GEOMETRY	Use and interpret the geometrical terms: point, line, parallel, bearing, right angle, acute.
5.2	GEOMETRY	Use and interpret the geometrical terms: obtuse and reflex angles, perpendicular, similarity and congruence.

WEEK	TOPIC	TOPIC DETAILS
5.3	GEOMETRY	Use and interpret vocabulary of triangles, quadrilaterals, circles.
5.4	GEOMETRY	Use and interpret vocabulary of polygons and simple solid figures including nets.
6.1	GEOMETRY	Calculate lengths of similar figures.
6.2	GEOMETRY	Recognize congruent shapes.
7.1	COORDINATE GEOMETRY	Demonstrate familiarity with Cartesian coordinates in two dimensions.
7.2	COORDINATE GEOMETRY	Find the gradient of a straight line.
8.1	COORDINATE GEOMETRY	Interpret and obtain the equation of a straight line graph in the form $y = mx + c$. Problems will involve finding the equation where the graph is given.
8.2	COORDINATE GEOMETRY	Determine the equation of a straight line parallel to a given line. e.g. find the equation of a line parallel to $y = 4x - 1$ that passes through $(0, -3)$.
9.1	PROBABILITY	Calculate the probability of a single event as either a fraction, decimal or percentage. Problems could be set involving extracting information from tables or graphs.
9.2	PROBABILITY	Understand and use the probability scale from 0 to 1.
9.3	PROBABILITY	Understand that the probability of an event occurring = $1 -$ the probability of the event not occurring = 0.
10.1	PROBABILITY	Understand relative frequency as an estimate of probability. Expected frequency of occurrences.
10.2	PROBABILITY	Calculate the probability of simple combined events, using possibility diagrams, tree diagrams and Venn diagrams. In possibility diagrams, outcomes will be represented by points on a grid, and in tree diagrams, outcomes will be written at the end of branches and probabilities by the side of the branches. Venn diagrams will be limited to two sets.
11.1	VECTORS	Describe a translation by using a vector represented by e.g. $(x_1 y_1)$, $(AB) \rightarrow$ or a
11.2	VECTORS	Add and subtract vectors.

WEEK	TOPIC	TOPIC DETAILS
11.3	VECTORS	Multiply a vector by a scalar.
12.1	TRANSFORMATION	Reflect simple plane figures in horizontal or vertical lines.
12.2	TRANSFORMATION	Rotate simple plane figures about the origin, vertices or midpoints of edges of the figures, through multiples of 90° .
13.1	TRANSFORMATION	Construct given translations and enlargements of simple plane figures. Positive and fractional scale factors for enlargements only.
13.2	TRANSFORMATION	Recognize and describe reflections, rotations, translations and enlargements. Positive and fractional scale factors for enlargements only.
14.1	GRAPHS OF FUNCTIONS	Construct tables of values for functions of the form $ax + b$, $\pm x^2 + ax + b$, $\frac{a}{x}$ ($x \neq 0$), where a and b are integer constants
14.2	GRAPHS OF FUNCTIONS	Draw and interpret these graphs.
15.1	GRAPHS OF FUNCTIONS	Solve linear and quadratic equations approximately, including finding and interpreting roots by graphical methods.
15.2	GRAPHS OF FUNCTIONS	Recognise, sketch and interpret graphs of functions Note: Linear and quadratic only. Knowledge of turning points is not required

CORE MATHEMATICS SCHEME OF WORK

FORM 5 - TERM 2

WEEK	TOPIC	TOPIC DETAILS
1.1	FUNCTIONS	Interpret and use graphs in practical situations including travel graphs and conversion graphs.
1.2	FUNCTIONS	Draw graphs from given data. e.g. interpret the gradient of a straight line graph as a rate of change.
2.1	STATISTICS	Collect, classify and tabulate statistical data.
2.2	STATISTICS	Read, interpret and draw simple inferences from tables and statistical diagrams.
2.3	STATISTICS	Compare sets of data using tables, graphs and statistical measures.
2.4	STATISTICS	Appreciate restrictions on drawing conclusions from given data.
3.1	STATISTICS	Construct and interpret bar charts, pie charts, pictograms.
3.2	STATISTICS	Construct and interpret stem-and-leaf diagrams, simple frequency distributions, histograms with equal intervals and scatter diagrams.
3.3	STATISTICS	Calculate the mean, median, mode and range for individual and discrete data and distinguish between the purposes for which they are used.
4.1	CORRELATION	Understand what is meant by positive, negative and zero correlation with reference to a scatter diagram.
4.2	CORRELATION	Draw, interpret and use lines of best fit by eye
5.1	TRIGONOMETRY	Interpret and use three-figure bearings. Measured clockwise from the North, i.e. 000° – 360° .
5.2	TRIGONOMETRY	Apply Pythagoras' theorem and the sine, cosine and tangent ratios for acute angles to the calculation of a side or of an angle of a right-angled triangle. Angles will be quoted in degrees. Answers should be written in degrees and decimals to one decimal place.

WEEK	TOPIC	TOPIC DETAILS
6.1	GENERAL REVISION	PAST PAPERS