



Year 7 Maths Revision Summer 2012

The Exam Paper Will Consist of:

Non calculator paper	(60 mins)
Calculator paper	(40 mins)
Mental Maths paper (to be taken in class before exam week)	(20 mins)

Pupils should take care to note the mark allocation for questions. If there are 2 or more marks awarded to a question this will usually require all working to be shown in order for the pupil to receive the full amount of the marks on offer.

Equipment you will need for the exam:

Pencil(s)
30 cm ruler
Rubber
A calculator
Protractor/Angle measurer
Pair of compasses

Topics you should know:

Number

- To multiply and divide numbers by 10, 100, 1000
- To multiply 2 and 3 digit numbers using an efficient method
- To divide using a single digit divisor using short division
- To divide using a double digit divisor using long division
- To solve problems involving multiplication and division
- To find the difference between two numbers (including negative numbers)
- To add and subtract a list of positive and negative numbers
(Only change the signs when two signs meet)
- To multiply and divide with negative numbers
- To order a list of numbers both positive and negative
- To find factors and multiples of a number.
- To know square numbers up to 15^2

- To find equivalent fractions
- To arrange fractions in size order using equivalent fractions
- To simplify fractions using equivalent fractions
- To convert between proper and improper fractions (mixed to top heavy) and vice versa.
- To express a quantity as a fraction of another
- To add and subtract fractions using equivalent fractions (including sums with mixed fractions)
- To find a fractions of an amount
- To multiply and divide fractions
- To order decimals according to size
- Add and subtract decimals with regard to columns
- Multiply and divide decimals numbers by 10,100,1000, etc.
- Multiply and divide decimals
- Round decimals to a given number of decimal places
- To find a percentage of a quantity without calc
(e.g 15% of 240, 10%= 24, 5%=12, 15%=36)
- To find a percentage using calc
(e.g 15% of 240, 240×0.15)
- To express one quantity as a percentage of another.
- To increase and decrease a quantity by a given percentage
- To convert between decimals, fractions and percentages (pupils should be able to size order a mixture of these)

Algebra

- To understand the language of algebra e.g 2 more than x is $x+2$, twice as many is $2x$ NB x^2 does not equal $2x$
- To form algebraic expressions
- To collect like terms
- To multiply out brackets e.g $3(2x+5) - 7(3x-4)$ and simplify answer
- To understand the difference between an algebraic expression and an equation
- To solve linear equations with unknowns on one side e.g $5x+7= 17$
- To solve linear equations with unknowns on both sides e.g $5x+17= 3x+27$

Shape and Space

- To plot and read coordinates in all four quadrants
- To write down the coordinates of a shape missing a corner
- To create own axes with equally spaced intervals
- To know the names of the eight main compass points and their equivalent angles (e.g SE is 145°)
- To know the terms obtuse, acute and reflex (Angle classification)
- To measure and draw angles using a protractor (including examples greater than 180°) Pupils should discuss their own methods for doing this using a semi-circular protractor.
- To know that angles on a line sum to 180°
- To know that angles around a point sum to 360°
- To know that vertically opposite angles are equal on a cross.

- To classify and know the properties of scalene, right angled, isosceles and equilateral triangles.
- To know the sum of angles in a triangle is 180°
- To find missing angles given other angles in scalene, right angled, isosceles and equilateral triangles.
- To construct a triangle given SAS (Side, Angle, Side) using a ruler and protractor.
- To construct a triangle given SSS (Side, Side, Side) using a ruler and a compass
- To construct a triangle given ASA (Side, Angle, Side) using a ruler and protractor

Handling Data

- To find the mean, mode, median and range from a list of numbers
- To construct a frequency table from a list of numbers
- To construct a grouped frequency table from a list of numbers with equal class intervals.
- To find mean, mode, median and range from a frequency table. (Modal class for grouped frequency table)
- To compare two sets of data using this information
- To draw and interpret simple bar and line graphs and pictograms
- To draw and interpret Venn and Carroll Diagrams.
- To draw and interpret pie charts
- To draw scatter graphs and use a line of best fit to make predictions
- To comment on the correlation of variables. (e.g number of umbrellas sold vs amount of rain = neg correlation)
- To understand terminology of biased, fair, likely and unlikely
- To know that an event is given a probability in the range of 0 to 1
- To list all the outcomes of a single experiment and thus give probability of associated events.
- To list all the outcomes of two combined experiments and thus give probability of associated events.
(e.g toss two coins – probability of at least one head)
- To predict outcomes of repeated experiments use expected probability
- (What is the expected number of times you would land on an even number if you spun a spinner 300 times numbered 1-5)
- To know the complement of an event

References:

Please use the notes in your exercise books and the chapters in your textbook to help you revise.

You may also find the following websites helpful in explaining topics further:

www.mymaths.co.uk (username: bmhps, password: circle360)

www.cimt.plymouth.ac.uk/projects/mep/default.htm (click on Year 7 or Year 8 Interactive material and follow the links to find the relevant topic)

www.mangahigh.co.uk (your teachers will set up relevant challenges for you)