**Year 9 Weekly Topic Overview**

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| **Week** | **Topic** | **Assessment & LL’s** |
| 1 | **F:**Squares, roots and cubes Divisibility tests and prime numbersFactors, Multiples, Primes, HCF, LCM and using Venn Diagrams  |  |
| **H:**  Factors, Multiples, Primes, HCF, LCM and using Venn DiagramsNth term formulae – linear and quadratic |  |
| 2 | **F:**Sequences – finding and using nth term rulesRules of indices  |  |
| **H:** Using and finding Nth term formulae (linear and quadratic)Rules of indicesDirect & Indirect Proportion (set 1 only).  |  |
| 3 | **F:** Averages from a list and tableStem and leaf diagramsCompare using averages | Mixed Homework sheet 2 – Learning Landmark 1 |
| **H:** Scatter graphsAverages from a list and table | Mixed Homework sheet 2 – Learning Landmark 1 |
| 4 | **F:** Two- way tables Pie charts Scatter graphs and correlation  |  |
| **H:** Stem and Leaf diagramsCompare using averages Cumulative Frequency |  |
| 5 | **F:** Revision, assessment & responsePercentage of amounts (non-calc) | Test 1 Learning Landmark 2 |
| **H:** Revision, assessment & response | Test 1 Learning Landmark 2 |
| 6 | **F:**Scatter graphs and correlation Simplifying fractions and fractions of amountsConverting between mixed numbers and improper fractions, multiplying, dividing, adding and subtracting fractions |  |
| **H:** Box plotsRecap lesson of averages, cumulative frequency and box plotProblem solvingMixed number – improper fraction with adding and subtracting fractions |  |
| 7 | **F:** Decimal multipliers including increase and decreaseNumber as % of number, percentage changeCompound interest and depreciation FDP conversions and ordering.  |  |
| **H:** Multiplying and dividing fractionsAlgebraic fractionsPercentages - non-calculator, decimal multiplier and increase/decrease using a multiplier |  |
| Half Term |
| 8 | **F:**Simplifying ratios and converting between a ratio and fraction Sharing in a ratio Ratio when given one value or given difference Problem solving  | Mixed Homework sheet 5 – Learning Landmark 3 |
| **H:** Percentages – one number as a percentage of another, percentage change, reverse percentages and compound percentage changeSimplifying and sharing in a ratio | Mixed Homework sheet 5 – Learning Landmark 3 |
| 9 | **F:** Simplifying expressions by collecting like terms Expand single and double brackets Factorising linear expressions |  |
| **H:**Ratio when given one value or given difference. Solve linear equationsSimultaneous equations  |  |
| 10 | **F:** Solve simple equations, equations with unknowns on both sides and equations with brackets Substitution with positive and negative numbers |  |
| **H:** Simultaneous EquationsInequalitiesChange the subject of a formulaProblem solving  |  |
| 11 | **F:**Revision, assessment & response Substitution involving negatives | Test 2 Learning Landmark 4 |
| **H:** Revision, assessment & response Pythagoras theorem | Test 2 Learning Landmark 4 |
| 12 | **F:** Revision, assessment & responseAngles -name, measure, estimate and draw angles, basic angle facts and angles in parallel lines. |  |
| **H:** Pythagoras theorem and TrigonometryReview angle facts and angles in parallel lines |  |
| 13 | **F:**Angles in polygons investigationRegular polygons and calculating missing angles Compass constructions  |  |
| **H:** Angles in polygonsCompass constructions |  |
| 14 | **F:** Problem solving Getting to know your calculator  |  |
| **H:** LociSimilar triangles |  |
| Christmas |
| 15 | **F:**Rounding to decimal places, sig fig and estimation Metric and imperial conversions  | Spring Mixed Homework sheet 1 – Learning Landmark 5 |
| **H:** Four operations with negative numbers & substitution into a formula Intermediate maths challenge (2003) | Spring Mixed Homework sheet 1 – Learning Landmark 5 |
| 16 | **F:**Area of basic and compound shapesArea and circumference of a circle  |  |
| **H:** Rounding to decimal places, sig fig and estimation Getting to know your calculator Error boundsConverting between ordinary numbers and standard form |  |
| 17 | **F:**Volume of cuboids and prismsSurface area Conversion between units of area and volume.  |  |
| H: Standard form - calculationsRecap negative powers and focus on fractional powersArea of triangle, parallelogram, trapezium and compound shapesCircumference and area of a circle |  |
| 18 | Revision, assessment & response**F:** Problem solving **H:** Intermediate Maths Challenge 2004 | Year 9 spring exam – P1 Non-calculator - Learning Landmark 6 |
| 19 | **F:**Coordinate and coordinate problems Y= and x = lines and plotting simple equations Plotting using a table of value - gradients and intercepts  |  |
| **H:** Area and perimeter of compound shapes involving circlesSector area and arc lengthVolume of a prismVolume of a cone, pyramid and sphere (set 1&2)  |  |
| 20 | **F:**Exploring graphs on a computerBasic probability, not happening, sum to 1. Sample space diagrams Relative frequency and expected outcomes  |  |
| **H:** Surface area, Mass Density Volume, Speed Distance Time. Problem solving  |  |
| Half Term |
| 21 | **F:**Completing Venn diagrams and calculating probabilities Transformations -translations, reflections and rotations |  |
| **H:** Straight line graphs – plotting, exploring, gradients and finding equations of lines when given a line or points.  |  |
| 22 | **F:**Enlargements, including finding the centre of enlargementDescribing as single transformation Recap of expanding and simplifying  |  |
| **H:** Y= mx+c and rearranging equations into the form y=mx+cMutually exclusive and independent events – addition and multiplication rulesProbability tree diagrams and using tree diagrams to find probabilities |  |
| 23 | Revision, assessment & response**F:** Recap linear factorising then start factorising quadratics when a = 1 **H:** Venn diagrams, set notation and probabilities | **Year 9 spring exams – P2 Non-calculator - Learning Landmark 7** |
| 24 | **F:**Recap of averages and ungrouped table and comparisons.Estimated mean Drawing bar graphs for discrete and continuousDual and compound bar charts  |  |
| **H:** Transformations -translations, reflections and rotations Enlarge 2D shapes, given a centre of enlargement and integer or fractional scale factor, positive or negativeDescribe the single transformation |  |
| 25 | **F:**Recap stem and leaf diagrams. Properties of 2D and 3D shapes Plans and elevations, and isometric drawings Recap all things area inc. circles and compound  | **Spring Mixed Homework sheet 15 –** **Learning Landmark 8** |
| **H**:Recap of expanding and factorising with single brackets. Expand double brackets including squared bracketsFactorise and quadratic equations where a=1 and where a>1 | Spring Mixed Homework sheet 7/8 – Learning Landmark 8 |
| 26 | **F:**Revise all things volumeProblem solving Pythagoras |  |
| **H:**Plans & elevations Drawing 3D shapes on isometric paperSurface area and volume of prisms – including working backwards to find missing lengths  |  |
| Easter |
| 27 | **F:**Pythagoras applied questionsRecap powers, roots and basic rules of indices, 0 and negative indices Frequency polygons  |  |
| **H:** Surface area and volumes of spheres, cones & pyramids – give answers in terms of π and as a decimal. Include working backwards to find missing lengths.  |  |
| 28 | **F and H:** Revision & assessment Assessment responseMagic squares | Year 9 Summer exams – P1 Calculator – Learning Landmark 9 |
| 29 | **F:**Recap pie charts & line graphsCalculations involving time and timetables. Speed time graphs  |  |
| **H:**Pythagoras and Trig – right angled trianglesNon right angled triangles: Sine rule, Cosine rule and Area of a triangle using ½ absinC |  |
| 30 | **F:**Plotting curved graphs Ratio recap Proportion, including best buys, and recipes  | Summer Mixed Homework sheet 17 - Learning Landmark 10 |
| **H:** Use trigonometry to solve problems in 2D and 3D.Practical activities on Pythagoras and Trigonometry.  | Summer Mixed Homework sheet 2/3 - Learning Landmark 10 |
| 31 | **F:**Review of percentages including decimal multipliers, compound percentage change,one number as a percentage of another, percentage change, and reverse percentages  |  |
| **H:** Review of all rules of indicesIntermediate Maths Challenge (2005)Misleading graphs |  |
| Half Term |
| 32 | **F:**Review of all percentage Recap solving equations Forming expressions & forming and solving equations  |  |
| **H:** Histograms including frequency density Linear graphs recap – gradient and intercept Graphs of quadratic and cubic functions  |  |
| 33 | **F and H:**Revision, assessment & responsePascals triangle | Year 9 Summer exam P2 – Learning Landmark 11 |
| 34 | **F:**Solving simultaneous by elimination when given a match Recap the four operations with fractions with a focus on mixed number |  |
| **H:** Graphs of reciprocal functions Graphing linear inequalities Percentage increase / decrease using decimal multipliers – include finding original amount and compound interest and depreciation  |  |
| 35 | **F:**Financial literacy e.g. completing bills/statements, pay slip, VAT, mortgages and loans Expanding and factorising review | Summer Mixed Homework sheet 7 – Learning Landmark 12 |
| **H:**Find percentage increase / decrease given original and final amountsUse percentages in real life situations such as compound interest, VAT and income tax, profit and loss etcCalculate the overall impact of a number of % changes even if the original is not stated e.g. the sides of a cube are each increased by 10%, what is the overall increase in volume / surface area. | Summer Mixed Homework sheet 7 – Learning Landmark 12 |
| 36 | **F:**Recap compass constructions. Loci Review plans and elevations, then isometric using multilink |  |
| **H:**Expand and simplify double brackets. Factorise and quadratic equations (including the difference of two squares) when a=1 and when a>1 Expand the product of more than two binomials and simplify |  |
| 37 | ConsolidationEnd of term activity |  |