St Peter's Collegiate Academy

At St Peter's we believe that a broad and balanced curriculum with a strong academic core is a right for all pupils. We seek to encourage pupils to explore subjects of interest around their in-school learning and to enhance their curriculum experience through enrichment.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit of Work/Big Question	**Unit of Work/Big Question**	**Unit of Work/Big Question**	**Unit of Work/Big Question**	**Unit of Work/Big Question**	**Unit of Work/Big Question**
- *Number:* **Percentages, decimals** - *Algebra:* **Co-ordinates and graphs** - *Shape:* **Perimeter and area, Pythagoras' theorem**	- *Shape:* **Congruence and similarity, trigonometry with right angled triangles** - *Statistics*: **Probability** - Ratio: **Ratio fundamentals**	- *Algebra*: **Terminology, substitution into formulae, rearranging formulae, solving linear equations** - *Shape*: **Angles in parallel lines**	- *Shape*: **Properties of polygons, volume** - *Ratio*: **Compound measures** - *Algebra*: **Solving quadratic equations**	- *Shape*: **Surface area** - *Algebra:* **Sequences, problem solving** - *Statistics:* **Measures of central tendency and spread, types of data and sampling, statistical diagrams** - *Ratio/Algebra*: **Direct and inverse proportion**	- *Number: Indices, standard form* - *Shape*: *Transformations* - *Algebra: Types of graphs*
Knowledge	**Knowledge**	**Knowledge**	**Knowledge**	**Knowledge**	**Knowledge**
- **Percentage change calculations** - **Decimal conversion and rounding** - **Perimeter and area of 2D shapes** - **Using coordinate axes to problem solve and plot straight line graphs** - **Manipulation of y=mx + c, parallel lines.** - **Apply Pythagoras' Theorem to right angled triangles**	- **Congruent and similar shapes** - **Apply Trigonometry to right angled triangles** - **Probability of combined events** - **Ratio notation and sharing**	- **Using correct algebraic terminology** - **Substitution into formulae** - **Rearranging algebraic formulae** - **Solving linear equations** - **Angles in parallel lines rules**	- **Properties of triangles and quadrilaterals** - **Interior and exterior angles of polygons** - **Calculating volume** - **Density** - **Solving quadratic equations**	- **Surface area of solids** - **Linear and non-linear sequences** - **Algebraic cross topic problems** - **Compare and describe distributions of data sets** - **Data definitions and sampling** - **Direct and inverse proportion** - **Statistical diagrams**	- **Laws of indices** - **Calculating in standard form** - **Rotation, reflection, translation and enlargement** - **Interpreting and sketching different types of graph**
Skills & Procedural Knowledge	**Skills & Procedural Knowledge**	**Skills & Procedural Knowledge**	**Skills & Procedural Knowledge**	**Skills & Procedural Knowledge**	**Skills & Procedural Knowledge**
Percentage change calculations - I can find percentages of amounts - I can use multipliers to carry out percentage change calculations - I can identify a percentage change - I can find the original value of a percentage change (reverse percentage) - I can understand simple interest - I can carry out compound interest and depreciation calculations ***Decimal conversion and rounding*** -I can convert between terminating decimals and fractions - I can round numbers to a given	***Congruent and similar shapes*** -I can apply the congruence rules for triangles - I can apply angle rules and shape properties to determine congruence -I can use scale factors to determine similarity of shapes -I can find unknown lengths in similar shapes using scale factors ***Apply trigonometry to right angled triangles.*** -I can remember SOHCAHTOA -I can find missing angles in right angled triangles	***Using correct algebraic terminology*** - I can recognise and can use expressions, equations, formulae, identities, terms - I can manipulate an identity problem to find missing unknowns ***Substitution into formulae*** - I can substitute numerical values including negative and fractional values into formulae and expressions. - I can substitute any numerical value into more complex scientific formulae	***Properties of triangles, and quadrilaterals*** - I can derive and use the sum of internal angles in a triangle. - I can apply the angle sum of a triangle to derive and use the angle sum in any polygon. - I can recognise different quadrilaterals and their properties ***Interior and Exterior angles of polygons*** - I can recognise and apply the correct terminology when working with polygons e.g regular. - I can find a single interior angle of	***Surface area of solids*** - I can calculate the surface area of prisms - I can calculate the surface area of spheres, cones or other composite solids (formulae will be given in the question) ***Linear and non-linear sequences*** - I can generate sequences from rules including the nth term - I can identify and use the nth term - I can recognise arithmetic,geometric, quadratic or Fibonacci style sequences -	***Laws of indices*** - I can use and recognise positive power indices - I can use the four index laws with integer indices (including the negative integer power) ***Calculating in standard form*** - I can convert from standard form to ordinary numbers and vice versa - I can calculate with numbers in standard form with a calculator - I can calculate with numbers in standard form without a calculator ***Rotation, reflection, translation and***

number of decimal places or significant figures -I can estimate answers -I can find the upper and lower bounds (error interval) ***Perimeter and area of 2D shapes*** -I can calculate the area and perimeter of 2D shapes focussing on triangles and quadrilaterals - I can calculate the area of circles and composite shapes - I can calculate the circumference of a circle ***Using coordinate axes to problem solve and plot straight line graphs*** - I can solve geometrical problems on coordinate axes. - I can plot graphs of straight lines from their equations ***Manipulation of y=mx + c, parallel lines.*** - I can use y=mx+c to identify parallel lines - I can identify the gradient and y-intercepts of a linear graph - I can find the equation of the line through a point with a given gradient - I can find the equation of a line through two given points ***Apply Pythagoras' Theorem to right angled triangles*** - I can recall the formula and know when to use Pythagoras' theorem - I can find an unknown hypotenuse - I can find an unknown shorter side	-I can find missing lengths in right angled triangles -I can recall exact values of $\sin\theta$, $\cos\theta$ or $\tan\theta$ for $\theta=0°,30°,45°,60°$ or 90 ***Probability of combined events*** -I can find probabilities by listing outcomes or using sample space diagrams - I can use venn diagrams and recognise set notation - I can use frequency trees in context -I can use probability trees for combined events ***Ratio notation and sharing*** -I can use ratio notation and reduce to its simplest form - I can divide into any given part to part ratio -I can find unknown parts or wholes in a sharing ratio problems -I can apply ratio to real contexts and problems -I can convert between ratios and fractions and use them interchangeably	***Rearranging formulae*** - I can use inverse operations to - I can change the subject of one step or multi-step formulae ***Solving linear equations*** - I can solve linear equations in one unknown algebraically including negative and fractional solutions - I can solve linear equations with the unknown on both sides of the equation - I can solve equations containing one or more brackets ***Angles in parallel lines rules*** - I can recognise and apply angle rules on intersecting lines, around a point and in 2D shapes - I can identify and apply alternate and corresponding angles in parallel lines - I can find any angle in a parallel lines problem including the C shape (co-interior or supplementary)	a regular polygon - I can find a single exterior angle of a regular polygon - I can find the angle sum in any polygon ***Calculating volume*** - I can find the volume of any prism, including cylinders - I can find the volume of a cone or pyramid given the formula - I can find the volume of a sphere given the formula ***Density*** - I can calculate compound measures, with a focus on density, mass and volume ***Solve quadratic equations*** - I can expand and simplify brackets - I can factorise into single or double brackets - I can factorise a quadratic equation of the form $x^2 + bx + c = 0$ to find its solutions - I can approximate solutions to a quadratic equation using a graph	***Algebraic cross topic problems*** - I can set up and solve equations using angle rules - I can set up and solve equations using area or perimeter rules ***Compare and describe distributions of data sets*** - I can interpret, analyse and compare data sets using measures of central tendency or spread (median, mean, mode and modal class and range) - I can identify outliers ***Data definitions and sampling*** - I can understand and apply the terms; primary, secondary, discrete and continuous when describing data - I understand the limitations of sampling ***Direct and inverse proportion*** - I can identify cases of direct and inverse proportion correctly - I can recognise and interpret graphs that illustrate direct and inverse proportion. - I can solve proportion problems such as best-buys or better value - I can recognise that inverse proportion is of x and y is that x is directly proportional to 1/y ***Statistical diagrams*** - I can interpret and construct diagrams including bar charts, pictograms and pie charts - I can construct or interpret vertical line charts - I can construct or interpret time-series graphs	enlargement. - I can translate shapes, or recognise and describe a translation - I can reflect shapes, or recognise and describe a reflection - I can rotate shapes, or recognise and describe a rotation - I can construct, identify and describe enlargements including those with fractional scale factors ***Interpreting and sketching different types of graph*** - I can recognise and sketch graphs of quadratics - I can identify roots, intercepts and turning points of a quadratic graphically - I can recognise and draw simple cubic functions - I can recognise and draw the reciprocal function
Key Assessment Task (KAT)	**Key Assessment Task (KAT)**	**Key Assessment Task (KAT)**	**Key Assessment Task (KAT)**	**Key Assessment Task (KAT)**	**Key Assessment Task (KAT)**
In class test on recent content (week beginning 2nd October)	**In class test on recent content (week beginning 11th December)**	**Major Assessment - One full GCSE calculator paper Week beginning 29th January**	**In class test on recent content (week beginning 11th March)**	**In class test on recent content (week beginning 22nd April)**	**Major Assessment (week beginning 24th June)**

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- *Number/Ratio:* FDP revision - *Algebra:* manipulation revision, inequalities - *Shape:* Pythagoras' theorem revision - *Ratio:* Proportion revision	- *Algebra:* Solving quadratics, simultaneous equations - *Geometry: Vectors* - *Ratio: Multipliers in context*	- *Geometry:* Trigonometry - *Number:* Factors and multiples - *Ratio:* Compound measures	- *Geometry:* Constructions and Loci - *Statistics:* Probability	- *Shape:* Angle properties - *Ratio:* Ratio and proportion	*N/A*
Knowledge	**Knowledge**	**Knowledge**	**Knowledge**	**Knowledge**	**Knowledge**
- Fractions, decimals and percentages revision - Algebraic fundamentals revision - Representing and solving Inequalities - More complex algebraic manipulation - Pythagoras' theorem revision - Direct and Inverse proportion revision	- Solving quadratic equations - Simultaneous equations - Vectors - Growth and Decay - TAILORED CONTENT BASED ON QLA AND SPARX, DIFFERING FOR EACH CLASS	- Trigonometry revision - Highest common factor, Lowest common multiple - Compound units - TAILORED CONTENT BASED ON QLA AND SPARX, DIFFERING FOR EACH CLASS	- Compass constructions - Loci problems - Probability revision - TAILORED CONTENT BASED ON QLA AND SPARX, DIFFERING FOR EACH CLASS	- Angle properties revision - Ratio and proportion revision - TAILORED REVISION BASED ON QLA AND SPARX, DIFFERING FOR EACH CLASS	
Skills & Procedural Knowledge	**Skills & Procedural Knowledge**	**Skills & Procedural Knowledge**	**Skills & Procedural Knowledge**	**Skills & Procedural Knowledge**	**Skills & Procedural Knowledge**
Fractions, decimals and percentages revision in context of exam style questions - I can apply the four operations to fractions and mixed numbers - I can apply the four operations - I can calculate percentages of amounts, percentage changes or original amounts *Algebraic fundamentals (use of exam questions)* -I can use correct algebraic notation -I can expand and simplify brackets -I can factorise expressions into	*Solving quadratic equations* -I can factorise quadratic expressions - I can solve quadratic equations *Solving simultaneous equations* -I can solve two linear equations with two variables simultaneously - I can multiply equations in order to solve them simultaneously - I can interpret the solution of simultaneous equations in graphical form - I can set up and solve linear simultaneous equations from	*Trigonometry revision (use of exam questions)* - I can apply SOHCAHTOA to find angles in right angled triangles - I can apply SOHCAHTOA to find lengths in right angled triangles - I can remember the exact values for sine, cosine and tangent for angles of 0,30,45,60,90 degrees *Highest common factor and lowest common multiple* – I can find the prime factorisation of a number - I can solve problems involving	*Compass constructions* - I can construct bisectors of lines or angles using a pair of compasses - I can construct perpendicular lines from a given lines *Loci* - I can recognise and use a circle around a point to find a certain distance away from a point - I can find equidistant lines or points using compass constructions - I can solve loci problems involving multiple constructions and scales	*Angle properties revision (use exam questions)* - I can use correct geometrical terminology - I can find unknown angles inside shapes or on intersections of lines - I can recognise angle rules in parallel lines *Ratio and proportion revision (use exam questions)* - I can work with fractions within ratio problems - I can work with ratio problems to find parts or wholes	

single brackets - I can solve linear equations in one unknown *Representing and solving Inequalities* -I can solve linear inequalities - I can represent solutions on a number line *Pythagoras' theorem revision (use of exam questions)* -I can find the hypotenuse of a right angled triangle - I can find a shorter side of a right angled triangle *Direct and inverse proportion problems* -I can solve problems using direct and inverse proportion, including graphical and algebraic representations - I can solve better value or best buy problems - I can interpret graphs involving scaling such as currency conversions	context *Vectors* -I can use diagrammatic and column representation of vectors -I can carry out addition or subtraction of vectors -I can multiply vectors by scalars *Growth and Decay* -I can find successive percentage changes using a multiplier - I can calculate growth problems, such as compound interest - I can calculate decay problems where the multiplier is less than 1	multiples or factors - I can solve HCF or LCM problems using lists - I can solve HCF or LCM problems using prime factorisations *Compound units* - I can convert between standard units of time, length and capacity - I can calculate with speed, distance and time - I can use distance time graphs - I can calculate with different compound units including pressure, rates of pay, density (revision) REVISION	*Probability revision (use exam questions)* - I can work with equally likely outcomes of single events - I can use frequency trees - I can understand relative frequency and expectation - I can solve combined event problems, with a focus on probability trees diagrams and venn diagrams REVISION	- I can solve proportion problems in context such as scaling, mixing, concentration, conversion REVISION	
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Full GCSE exam paper **(week beginning 2nd October)**	**Full GCSE exam paper** **(week beginning 20th November)**	**Mocks:** **Two full papers to be sat in January**	**Full GCSE exam paper** **(week beginning 18th March)**	**External Examination** **Paper 1**	**External Examinations** **Paper 2** **Paper 3**