	Autumn Term		Spring Term		Summer Term	
	1	2	1	2	1	2
Key Concepts	1A Solving Equatons and Inequalites 2 1B Proportonal Reasoning 2					

varia)les)0 su)sttuton Solve t7o linear si#ultaneous equatons in t7o varia)les)0 eli#inaton !#ultplicaton of)ot equatons required% Derive and solve t7o si#ultaneous equatons in co#ple4 cases Interpret t e soluton to a pair of si#ultaneous equatons 6nderstand t e concept of deci#al searc to solve a co#ple4 equaton A89A= 6se deci#al searc to solve a co#ple4 equaton A89A= 6nderstand t e process of interval)isecton to locate an appro4i#ate soluton for a co#ple4 equaton	)ino#ials involving surds 207b8*98: Ratonalise t e deno#inator of a surd e4pression 207c 8*98: 2F Co#plete t e square for a given quadratc e4pression 209a, 209b 1$$91$2 Appl0 co#pletng t e square to solve a quadratc equaton 209b 1$$91$2 , no7 and appl0 t e for#ula for solving a quadratc equaton of t e for# $ax² C bx C c @ $ 191 1$29 1$>	!e⊲g⊳y @ kx²%42, 199 =29=8 6se given facts to identf0 t e value of t e #ultplier in a situaton involving proporton 42, 199 =29=8 Create an equaton in t7o varia)les descri)ing an ident; ed proportonal relatons ip !e⊲g⊳y @ *x²%42, 199 =29=8 Solve pro)le#s involving direct and inverse proporton 42, 199 =29=8 2J "ind a given ter# in a si#ple geo#etric progression 163 128	class 7idt 205 *. =9*>1 Identf0 7 en it is necessar0 to calculate t e frequenc0 densit0 205 *. =9*>1 Construct istogra#s for grouped data 7it equal class intervals 205 Construct istogra#s for grouped data 7it unequal class intervals 205 *. =9*>1 6se a istogra# to ; nd #issing values in a frequenc0 ta)le 205 *. =9*>1 6se a partall0 co#pleted istogra# and frequenc0 ta)le to co#plete)ot 205 *. =9*>1		

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	rearranged into t e for# $ax^{B} C bx C c @ \$$ Solve pro)le#s involving quadrat c equat ons Ident f0 7 en iterat on s ould)e used to ; nd appro4i#ate solut ons to an equat on 1 6nderstand 7 0 speed density0 and pressure are Gno7n a Erl\#1 ot ons					

	Su)sttute into an0 given Gine#atc for#ulas 6se and interpret all Gine#atc for#ulas 1C , no7 t e criteria for triangles to)e congruent !SSS0 SAS0 ASA0 R (S% Ident f0 congruent triangles 6se Gno7n facts to for# conjectures a)out lines and angles in				

	)ase angles in an isosceles triangle #ust)e equal E4plain t e connect ons)et7een P0t agorean triples , no7 t e conditons for creatng a rig t angle 7it t ree points on t e circu#ference of a circle 183,184 <u>221922A</u> , no7 t at Ht e angle in a se#icircle is a rig t angleJ !and ot ers I see pedagogical notes%183,184 <u>221922A</u> "or# a conjecture fro# a geo#etrical situaton Set up a proof183,184 Create a c ain of				

	can)e used to elp solve a geo#etrical pro)le# 183,184 221¶22A 6se a co#)ina t on of Gno7n and derived facts to solve a geo#etrical pro)le# 221¶22A +us t f0 solu t ons to geo#etrical pro)le#s 1 \$ Appl0 P0t agorasJ t eore# in t7o di#ensions , no7 t e trigono#etric ra t osꝄ sinM @ oppN 0pꝄ cosM @ adjN 0pꝄ tanM @ oppNadj C oose an appropriate trigono#etric ra t o t at can)e used in a given t7o9di#ensional situa t on Set up and solve a trigono#etric equa t on to ; nd a					

	#issing side or angle in a rig t9angled triangle				
	3isualise t e diagonals of a cu)oid 217, 218 2>: 92>8				
	3isualise triangle t at can)e created)0 joining an0 t ree vert ces of a t ree di#ensional s ape 217, 218 2>: 92>8				
	6se P0t agorasJ t eore# to ; nd t e lengt a given diagonal in a cu)oid 217 2>: 9 2>8				
	6se P0t agorasJ t eore# to ; nd lengt s in t ree di#ensional ; gures 217 2>: 9 2>8				
	6se trigono#etr0 to ; nd t e angle)et7een a line and a plane 218 2: =9282				
	Solve pract cal pro)le#s involving lengt s and angles in				

	t ree di#ensional ; gures 2: =9282 , no7 t e la)elling conven t ons for non9rig t angled triangles 2: 292: > Derive t e sine rule 201 2: 292: > , no7 t e cosine rule 202 2: 292: > Iden t f0 7 en t e sine !cosine% rule is needed to solve a pro)le# 201,202 2: 292: > Set up and use t e sine !cosine% rule to ; nd a #issing side in a non9rig t angled triangle201,202 2: 292: > Set up and use t e sine !cosine% rule to ; nd a #issing lengt in a non9rig t angled triangle201,202 2: 292: > Recognise t e a#)iguous case 7 en using t e sine rule 201 2: 29 2: > Solve pro)le#s				

	involving)earings 124 2: 2ᵍ2: >					
Assess%ent	&eac'er(Ass) &est Unit tests	E*AM practice Unit tests	Moc+GC, E E-a%s	Unit tests	E-ternal e-a%s	E-ternal E-a%s

Curriculum Area: Maths		
Subject:		

Year r!u"	#asic $%! &er Abilit' ()* +!i)ts,	Clear $Mi**le Abilit' ()* +!i)ts,	-etaile* $. i/her Abilit' ()* +!i)ts,
7	Pupils use #at e#atcs as an integral part of classroo# actvites<' e0 represent t eir 7orG 7it o)jects or pictures and discuss it<' e0 recognise and use a si#ple paOern or relatons ip<	Pupils develop t eir o7n strategies for solving pro)le#s and use t ese strategies)ot in 7orGing 7it in #at e#atcs and in appl0ing #at e#atcs to practcal conte4ts< Ꝑ en solving pro)le#sꝹ 7it or 7it out ICꞌꝹ t e0 c ecG t eir results are reasona)le)0 considering t e conte4t<' e0 looG for paOerns and relatons ipsꝹ presentng infor#aton and results in a clear and organised 7a0Ꝺ using IC' appropriatel0<' e0 searc for a soluton)0 tr0ing out ideas of t eir o7n<	Pupils carr0 out su)stantal tasGs and solve quite co#ple4 pro)le#s)0 independentl0 and s0ste#atcall0)reaGing t e# do7n into s#allerꝹ #ore #anagea)le tasGs<' e0 interpretꝹ discuss and s0nt esise infor#aton presented in a variet0 of #at e#atcal for#sꝹ relatng ; ndings to t e original conte4t<' eir 7riOen and spoGen language e4plains and infor#s t eir use of diagra#s<' e0)egin to give #at e#atcal just; catonsꝹ #aGing connectons)et7een t e current situaton and situatons t e0 ave encountered)efore<
8	Pupils select t e #at e#atcs t e0 use in so#e classroo# actvites<' e0 discuss t eir 7orG using #at e#atcal language and are)eginning to represent it using s0#)ols and si#ple diagra#s<' e0 e4plain 7 0 an ans7er is correct<	In order to e4plore #at e#atcal situatonsꝹ carr0 out tasGs or tacGle pro)le#sꝹ pupils identf0 t e #at e#atcal aspects and o)tain necessar0 infor#aton<' e0 calculate accuratel0Ꝺ using IC' 7 ere appropriate<' e0 c ecG t eir 7orGing and resultsꝹ considering 7 et er t ese are sensi)le<' e0 s o7 understanding of situatons)0 descri)ing t e#	Startng fro# pro)le#s or conte4ts t at ave)een presented to t e#Ꝺ pupils e4plore t e eKects of var0ing values and looG for invariance in #odels and representatonsꝹ 7orGing 7it and 7it out IC<' e0 progressivel0 re; ne or e4tend t e #at e#atcs usedꝹ giving sppıspeBsᴉv

Curriculum Area: Maths			
Subject:			
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Year r! u''	#asic $%! &er Abilit' ()* +! i)ts,	Clear $Mi**le Abilit' ()* +! i)ts,	–etaile* $. i/her Abilit' ()* +! i)ts,
	solving pro)le#s⫶ 7it or 7it out IC'⫶ t e0 c ecG t eir results are reasona)le)0 considering t e conte4t‹' e0 looG for paOerns and rela t ons ips⫶ presen t ng infor#a t on and results in a clear and organised 7a0⫶ using IC' appropriatel0‹' e0 searc for a solu t on)0 tr0ing out ideas of t eir o7n‹	and 7it out IC'‹' e0 progressivel0 re; ne or e4tend t e #at e#a t cs used⫶ giving reasons for t eir c oice of #at e#a t cal presenta t on and e4plaining features t e0 ave selected‹ ' e0 jus t f0 t eir generalisa t ons⫶ argu#ents or solu t ons⫶ looGing for equivalence to diKerent pro)le#s 7it si#ilar structures‹' e0 appreciate t e diKerence)et7een #at e#a t cal e4plana t on and e4peri#ental evidence‹	strategies 7ere used⫶ considering t e elegance and eQcienc0 of alterna t ve lines of enquir0 or procedures‹' e0 appl0 t e #at e#a t cs t e0 Gno7 in a 7ide range of fa#iliar and unfa#iliar conte4ts‹' e0 use #at e#a t cal language and s0#)ols eKec t vel0 in presen t ng a convincing⫶ reasoned argu#ent‹' eir reports include #at e#a t cal jus t ; ca t ons⫶ dis t nguis ing)et7een evidence and proof and e4plaining t eir solu t ons to pro)le#s involving a nu#)er of features or varia)les
11	In order to e4plore #at e#a t cal situa t ons⫶ carr0 out tasGs or tacGle pro)le#s⫶ pupils iden t f0 t e #at e#a t cal aspects and o)tain necessar0 infor#a t on‹' e0 calculate accuratel0⫶ using IC' 7 ere appropriate‹' e0 c ecG t eir 7orGing and results⫶ considering 7 et er t ese are sensi)le‹' e0 s o7 understanding of situa t ons)0 descri)ing t e# #at e#a t call0 using s0#)ols⫶ 7ords and diagra#s‹' e0 dra7 si#ple conclusions of t eir o7n and e4plain t eir reasoning‹	Pupils develop and follo7 alterna t ve approac es‹' e0 co#pare and evaluate representa t ons of a situa t on⫶ introducing and using a range of #at e#a t cal tec niques‹' e0 reRect on t eir o7n lines of enquir0 7 en e4ploring #at e#a t cal tasGs‹' e0 co##unicate #at e#a t cal or sta t s t cal #eaning to diKerent audiences t roug precise and consistent use of s0#)ols t at is sustained t roug out t e 7orG‹' e0 e4a#ine generalisa t ons or solu t ons reac ed in an ac t vit0 and #aGe furt er progress in t e ac t vit0 as a result‹' e0 co##ent construc t vel0 on t e reasoning and logic⫶ t e process e#plo0ed and t e results o)tained‹	Pupils perfor# procedures accuratel0‹' e0 interpret⫶ co##unicate co#ple4 infor#a t on accuratel0 and #aGe deduc t ons and inferences and dra7 conclusions‹ Pupils can construct su)stan t al c ains of reasoning⫶ including convincing argu#ents and for#al proofs‹' e0 generate eQcient strategies to solve co#ple4 #at e#a t cal and non⫶ #at e#a t cal pro)le#s)0 transla t ng t e# into a series of #at e#a t cal processes‹ Pupils #aGe and use connec t ons⫶ 7 ic #a0 not)e i##ediatel0 o)vious⫶)et7een diKerent parts of #at e#a t cs and interpret results in t e conte4t of t e given pro)le#‹' e0 cri t call0 evaluate #et ods⫶ argu#ents⫶ results and t e

Curriculum Area: Maths			
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Year r! u"	#asic $%! &er Abilit' ()* +!i)ts,	Clear $Mi**le Abilit' ()* +!i)ts,	–etaile* $. i/her Abilit' ()* +!i)ts,
			assu#pt ons #ade‹

. ' y t' is/ . ' y now/	Mat' e%atics is an interconnected sO12ect in w' ic' pOpils need to 1e a1le to %o3e 4Oently 1etween representations o5 %at' e%atical ideas) &' e progra%%e o5 stOdy 5or +ey stage 6 is organised into apparently distinct do%ains7 1Ot pOpils s' oOld 1Oild on +ey stage 2 and connections across %at' e%atical ideas to de3elop 4Oency7 %at' e%atical reasoning and co%petence in sol3ing to de3ef@nnecKc2 d

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Pupils will be given the opportunity to work together to develop and share their ideas on topics, discuss misconceptions and how these topics can be used in real-life situations.

Creativity
Pupils will develop creativity through a variety of problem solving activities within each topic.

	develop algebraic and graphical fluency, including understanding linear and simple quadratic functions
	use language and properties precisely to analyse numbers, algebraic expressions, 2-Dand -D shapes, probability and statistics!
	
	Reason mathematically
	  extend their understanding of the number system" make connections between number relationships, and their algebraic and graphical representations
	
	  extend and formalise their knowledge of ratio and proportion in working with measures and geometry, and in formulating proportional relations algebraically
	
	  identify variables and express relations between variables algebraically and graphically
	
	  make and test con‡ectures about patterns and relationships" look for proofs or counter- examples
	
	  begin to reason deductively in geometry, number and algebra, including using geometrical constructions
	
	  interpret when the structure of a numerical problem requires additive, multiplicative or proportional reasoning
	
	  explore what can and cannot be inferred in statistical and probabilistic settings, and begin to express their arguments formally!
	
	Solve problems
	  develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems
	
	  develop their use of formal mathematical knowledge to interpret and solve problems, including in financial mathematics
	
	  begin to model situations mathematically and express the results using a range of formal mathematical representations
	
	  select appropriate concepts, methods and techniques to apply to unfamiliar and non- routine problems!

Aspirations & Careers	All pOpils s' oOld 1e nO%erate and a1le to Ose %at' e%atics at 1ot' wor+ and in e3eryday li5e 1eyond sc' ool) Mat' e%atics is 5Onda%ental to 5OtOre sOccess and closely lin+ed wit' Bnancial sOccess) It en' ances t' eir a1ility to in5er7 pro1le% sol3e7 t' in+ logically7 spot patterns as well as na3igate t' roOg' t' eir c' osen career wit' a well<eCOipped 3oca1Olary) FOrt' er%ore7 %at' e%atics e%powers oOr pOpils to operate in t' e %odern world) C$l@ 17 11

	CHA" AMM, 8 days Careers Fairs Career themed lessons Finance lessons :CSI@ 16; Cultural Capital Maths challenges Managing challenges Mathematics in the real world #rganising trips7 days oOt and ot' er e3ents #tracurricular , tretc' and c' allenge cl01 C' ess & ga%es cl01 ! o%ewor+ cl01