Stage 9 2022-23						
	Autumn Term		Spring Term		Summer Term	
	1	2	1	2		

	between truncatn" and roundin" 31, 32, 90 1%	identty 137 @1	• , alculate t!e arc len"t! of a sector w!en radius is "iven 118 /-&-/%$ foundaton boo2	m+ B c to identfy parallel lines 159a 13%-137	• ; et up and solve a tri"onometric e#uaton to 4nd a missin" side in a ri"!t-an"led trian"le 168 /-&-/%1	a line from a point (at a point) 146a, 146b /. %-/-$
	• Identfy t!e minimum and ma+imum values of an amount t!at !as been rounded (to nearest +1 + d8p81 + s8f8)132, 206 1. -1%	• ; implify an e+pression involvin" 5+´6 by collectn" li2e terms 33 -1	• 3now !ow to 4nd t!e area of a sector 167 /-&-/%$ foundaton boo2	• (earran"e an e#uaton into t!e form y < m+ B c 159a 13%-137	• ; et up and solve a tri"onometric e#uaton w!en t!e un2nown is in t!e denominator of a fracton168 /-&-/%1	• nderstand t!e meanin" of locus (loci) 165 /-/-/-3
	• se ine#ualites to describe t!e ran"e of values for a rounded value 132, 206, 155 1. -1%	• Identfy w!en it is necessary to remove factors to factorise a #uadratc e+pression 94 -%--7	• , alculate t!e area of a sector w!en radius is "iven 167 /-&-/%$ foundaton boo2	• Interpret t!e "radient of a strai"!t line "rap! as a rate of c!an"e 216b 1%/-1%-	• ; et up and solve a tri"onometric e#uaton to 4nd a missin" an"le in a ri"!t-an"led trian"le 168 /-&-/%1	• 3now !ow to construct t!e locus of points a 4+ed distance from a point (from a line) 165 /-/-/-3
	; olve problems involvin" t!e ma+imum and minimum values of an amount t!at !as been rounded 132, 206 1. -1%	• Identfy w!en it is necessary to 4nd two linear e+pressions to factorise a #uadratc e+pression -7--@	• , alculate t!e an"le of a sector w!en t!e arc len"t! and radius are 2nown 167 /-&-/%$ foundaton boo2	• Clot "rap!s of #uadratc (cubic1 reciprocal) functons 98, 161 1. 3-1-$	• se tri"onometry to solve problems involvin" bearin"s168 /-&-/%1	• , !oose tec!ni#ues to construct /' s!apes7 e8"8 r!ombus
	2C	•)actorise a #uadratc e+pression of t!e form +A B b+ B c 157, 192 -7--@	• 3now !ow to 4nd t!e surface area of a ri"!t prism (cylinder)	• (eco"nise and interpret t!e "rap!s of #uadratc (cubic1 reciprocal) functons98, 161 1. 3-1-$	se tri"onometry to solve problems	• , ombine tec!ni#ues to solve more comple+ loci problems 165 /-/-/-3
	• Identfy if a	• 3now !ow to set up an mat!ematcal		• ; 2etc! "rap!s of #uadratc (cubic1 reciprocal) functons 98, 161		• 3now !ow to deal wit! a c!an"e in dept!

	fracton is terminatn" or recurrin" N32 56-59 • (ecall some decimal and fracton e#uivalents (e⅛"⅜ tent!s1 4D!s1 ei"!t!s) N32 57-58 • E rite a decimal as a fracton N32 59 • E rite a fracton in its lowest terms by cancellin" common factors N23c 42 • Iden t fy w!en a fracton can be scaled to tent!s or !undredt!s N32 • , onvert a	ar"ument • E or2 out w!y two al"ebraic e+pressions are e#uivalent @1 • , reate a mat!ematcal ar"ument to s!ow t!at two al"ebraic e+pressions are e#uivalent @1 •			

fract on to a decimal by scalin" (w!en possible) N32 57-59 • se a calculator to c!an"e any fract on to a decimal N44 56-57 • E rite a decimal as a percenta"e N32 77-80 • E rite a fract on as a percenta"e N32 77-80 • (eco"nise w!en a fract on (percenta"e) s!ould be interpreted as a number • (eco"nise w!en a fract on	e#uat ons 162 1$%-1$& • Interpret t!e solut on to a pair of simultaneous e#uat ons 1$%-1$& • ;olve a #uadrat c e#uat on of t!e form xA B bx B c by factorisin" 157 @& • ;olve a #uadrat c e#uat on of t!e form axA B bx B c by factorisin" 157, 192 @@ • ;olve a #uadrat c e#uat on by rearran"in" and factorisin"	• , alculate an est mate of t!e mean from a "rouped fre#uency table, 130b 33&-33@ • 9st mate t!e ran"e from a "rouped fre#uency table 130a, 130b 33&-33@ • Analyse and compare sets of data 62 33@ • Appreciate t!e limitat ons of di: erent stat st cs (mean1 median1 mode1 ran"e) 62 33@ • , !oose appropriate stat st cs to describe a set of data 62 33@ lust fy c!oice of stat st cs to	G4b 3$/-3$. •)ind and name t!e e#uat on of t!e mirror line for a "iven reFect on 3$/-3$. • ' escribe a translat on as a /' vector G5 3$7-3$& • nderstand t!e concept and lan"ua"e of rotat ons G6 3$. -3$% • , arry out a rotat on usin" a "iven an"le1 direct on and centre of rotat on G6 3$. -3$% ' escribe a rotat on usin" mat!emat cal lan"ua"e G6 3$. -3$%	direct (inverse) proport on situat on 199 @/-@% • nderstand t!e connect on between t!e mult plier1 t!e e+pression and t!e "rap! • 3now t!e meanin" of con"ruent (similar) s!apes 12b, 144 31&-3/1 • Ident fy con"ruence (similarity) of s!apes in a ran"e of situat ons 12b, 144 31&-3/1 • Ident fy t!e informat on re#uired to solve a problem involvin" similar s!apes 144 31&-3/1	

	(percenta"e) s! ould be interpreted as a operator • Iden t fy t! e mul t plier for a percenta"e increase or decrease w! en t! e percenta"e is "reater t! an 1$$J R9b <u>81</u> • se calculators to increase an amount by a percenta"e "reater t! an 1$$J R9b <u>81-82</u> • ; olve problems involvin" percenta"e c! an"e 109 <u>83-84</u> • ; olve ori"inal value	157, 192 <u>@@</u> • Iden t fy w! en a #uadra t c e#ua t on cannot be solved by factorisin" 191 • Ma2e connec t ons between "rap! s and #uadra t c e#ua t ons of t! e form ax^2 B bx B c < $ <u>1%%-1%@</u> • Ma2e connec t ons between "rap! s and #uadra t c e#ua t ons of t! e form ax^2 B bx B c < dx B e <u>1%%-1%@</u>) ind appro+imate	describe a set of data 62 <u>33@</u>		) indin" missin" len"t! s in similar s! apes 144 <u>31&-3/1</u>	

	problems w! en wor2in" wit! percenta"es 110 <u>85</u> • ; olve 4nancial problems includin" simple interest 111 <u>86-87</u> • nderstand				

		dia"ram to calculate probabili t es of independent combined events 151,175 <u>37 - -37%</u> • se a tree dia"ram to calculate probabili t es of dependent combined events 151,175 <u>37 - -37@</u> nderstand t! at rela t ve fre#uency tends towards t! eore t cal probability as sample si He increases <u>3%&-3%@</u>				
Assessment	. eacher8Ass. . est 6nit tests	9.1 E: A% 6nit tests	. eacher8Ass. . est 6nit tests	9.2 E: A% 6nit tests	. eacher8Ass. . est 6nit tests	9.& E: A% 6nit tests

#ear Gr$u%	&a ic '($) er Abilit* +, – . $i, t /	Clear 'Mi––le Abilit* +, – . $i, t /	Oetaile– '1i2her Abilit* +, – . $i, t /
	t! eir own�	appreciate t! e di: erence between	

; hy this< ; hy no4<	%athematics is an interconnecte5 sub=ect in 4hich pupils nee5 to be able to mo"e >uently bet4een representations o/ mathematical i5eas. . he programme o/ stu5y /or ?ey stage & is organise5 into apparently 5istinct 5omains@ but pupils shoul5 buil5 on ?ey stage 2 an5 connections across mathematical i5eas to 5e"elop >uency@ mathematical reasoning an5 competence in sol"ing increasingly sophisticate5 problems. . hey shoul5 also apply their mathematical ?no4le5ge in science@ geography@ computing an5 other sub=ects. . he structure is 5esigne5 to bri5ge bet4een K! 2 an5 K!)@ buil5ing both 4ithin an5 bet4een ?ey topic areas. . he structure also buil5s the complexity le"els 4ithin topics an5 gi"es a greater "ariation in the challenge gi"en to pupils.

! ?ills &
Characteristi
cs
	Resilience
	  upils 4ill increase their resilience 5uring the course through learning ne4 concepts@ using prior ?no4le5ge to 5e"elop mathematical >uency an5 applying s?ills to a "ariety o/ situations an5 problems. upils 4ill be challenge5 in all lessons an5 4ill sho4 that they ha"e learne5 /rom mista?es through a "ariety o/ tas?s inclu5ing connect exercises. . he challenge acti"ities 4ill ha"e the aim o/ 5e"eloping both s?ills an5 high aspirations in both this sub=ect an5 li/e beyon5. Aesilience 4ill also be 5e"elope5 4ithin the Key maths s?ills belo4 ℬ>uency@ reasoning an5 problem sol"ingℂ.
	
	Collaboration
	  upils 4ill be gi"en the opportunity to 4or? together to 5e"elop an5 share their i5eas on topics@ 5iscuss misconceptions an5 ho4 these topics can be use5 in real+li/e situations.
	
	Creativity
	  upils 4ill 5e"elop creati"ity through a "ariety o/ problem sol"ing acti"ities 4ithin each topic@ 4or?ing on in5epen5ent tas?s beyon5 the classroom such as %angahigh acti"ities@ an5 apply the ?ey s?ills ℬ>uency@ reasoning an5 problem sol"ingℂ.
	
	Skills Buil er
	CO%%6N$CA. $ON D , istening & ! pea?ingℇ
	  upils are expecte5 to acti"ely listen so that they can /ollo4 instructions an5 pic? out misconceptions. ℬ, $! . EN$N' ℂ

	! $tracurricular ! tretch an5 challenge club Chess & games club (ome4or? club