

MATHEMATICS, F3, T1

REFERENCES: Advancing in Mathematics BK 4 By Longhorn Kenya Publishers, Secondary Mathematics BK 4 By KLB, Macmillan Secondary Maths BK 2, Explore Mathematics

WK	LSN	TOPIC	SUB-TOPIC	OBJECTIVES	L/ACTIVITIE	L/T AIDS	REFERENCE	REMARKS
1		REPORTING AND REVISION OF LAST TERM'S EXAMS						
2	1&2	REVISION						
	3	Quadratic Expressions And Equations	Factorize quadratic expressions	By the end of the les the learner should be able to factorise quadratic expressions	Learners factorize quadratic expressions	Previous work covered	Explore Maths Bk3 Pg.66	
	4	Quadratic Expressions And Equations	Perfect squares	By the end of the lesson the learner should be able to identify perfect squares	Learners identify perfect squares	Chalkboard illustrations	Explore Maths Bk3 Pg.67	
	5	Quadratic Expressions And Equations	Completing squares Completing the constant	By the end of the lesson the learner should be able to complete the constant part	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.68	
	6	Quadratic Expressions And Equations	Completing the coefficient of x	By the end of the lesson the learner should be able to Complete the coefficient of x in a quadratic expression	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.69	
	7	Quadratic Expressions And Equations	Completing the coefficient of x^2	By the end of the lesson the learner should be able to complete the coefficient of x^2 in a quadratic expression	Learners Complete the coefficient of x^2	Chalkboard illustrations	Explore Maths Bk3 Pg.70	
3	1	Quadratic Expressions And Equations	Solution of quadratic by Completing the square when coefficient of x^2 is 1	By the end of the lesson the learner should be able to solve quadratic equations whose coefficient of x^2 is 1 by completing of the square method	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.71	
	2	Quadratic Expressions And Equations	Solving quadratic equation whose coefficient of x^2 is greater than 1 by completing the square	By the end of the lesson the learner should be able to solve quadratic equations whose coefficient of x^2 is greater than by completing the square	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.72	

	3	Quadratic Expressions And Equations	Quadratic formula	By the end of the lesson the learner should be able to derive the quadratic formula	Teacher leads pupils to derive the quadratic formula	Chalkboard illustrations	Explore Maths Bk3 Pg.77	
	4	Quadratic Expressions And Equations	Application of the quadratic formula	By the end of the lesson the learner should be able to Apply the quadratic formula and use it to solve quadratic equations	Learners solve quadratic equations using the quadratic formula	Chalkboard illustrations	Explore Maths Bk3 Pg.78	
	5	Quadratic Expressions And Equations	Forming quadratic equations from roots	By the end of the lesson the learner should be able to form quadratic equations from roots	Learners form quadratic equations from roots	Chalkboard illustrations	Explore Maths Bk3 Pg.79	
	6	Quadratic Expressions And Equations	Forming quadratic equations from given situation	By the end of the lesson the learner should be able to form quadratic equations from given situations	Learners form quadratic equations from given situation	Chalkboard illustrations	Explore Maths Bk3 Pg.79	
	7	Quadratic Expressions And Equations	Solving the formed equation using the formula method	By the end of the lesson the learner should be able to solve the formed equations using the formula method	Solving quadratic equations using the formula method	Chalkboard illustrations	Explore Maths Bk3 Pg.80	
4	1	Quadratic Expressions And Equations	Table of values for a quadratic relation	By the end of the lesson the learner should be able to make table of values from a quadratic relation	Learners fill in the tables	Pencils rulers	Explore Maths Bk3 Pg.81	
	2	Quadratic Expressions And Equations	Quadratic graphs	By the end of the lesson the learner should be able to draw the graph of a quadratic relation	Learners draw graphs	Graph books square books	Explore Maths Bk3 Pg.82	
	3	Quadratic Expressions And Equations	Solving quadratic equations using graphs	By the end of the lesson the learner should be able to solve quadratic equations using graphs	Learners draw graphs and lines	- Graph books - square books	Explore Maths Bk3 Pg.83	
	4	Quadratic Expressions And Equations	Solving simultaneous equations	By the end of the lesson the learner should be able to solve simultaneous equations analytically and graphically. (one linear one quadratic)	Learners draw quadratic curve and some lines on the curve	- Graph books - square books rulers	Explore Maths Bk3 Pg.83	

	5	Quadratic Expressions And Equations	Nature of roots	By the end of the lesson the learner should be able to state the three types of roots	Learners state the roots	Chalkboard illustrations graph of quadratic curves	Explore Maths Bk3 Pg.84	
	6	Quadratic Expressions And Equations	Use discriminant to state the nature of roots	By the end of the lesson the learner should be able to use the discriminant to state the nature of the root	Learners state the volume of root using discriminant	Chalkboard illustrations	Explore Maths Bk3 Pg.76	
	7	Quadratic Expressions And Equations	Application to real life situation	By the end of the lesson the learner should be able to apply the knowledge of quadratic equations to real life situation	Learners solve problems	Chalkboard illustrations	Explore Maths Bk3 Pg.77	
5	1	Approximation And Errors	Introduction to calculators	By the end of the lesson the learner should be able to know all the keys of the calculator	Learners use calculators to do simple computation	Calculators	Explore Maths Bk3 Pg.7	
	2	Approximation And Errors	Use of calculators in various computations	By the end of the lesson the learner should be able to use calculators in various computations	Learners compute using calculators	Calculators	Explore Maths Bk3 Pg.2-5	
	3	Approximation And Errors	Estimations and approximations	By the end of the lesson the learner should be able to make reasonable approximations and estimations of quantities computations and measurements	Learners should be able to approximate and estimate	Calculators	Explore Maths Bk3 Pg.14	
	4	Approximation And Errors	Significant figures	By the end of the lesson the learner should be able to express values to a given number of significant figures	Learners write numbers to a certain number of significant figures	Chalkboard illustrations	Explore Maths Bk3 Pg.14	
	5	Approximation And Errors	Definition of absolute, relative and percentage errors	By the end of the lesson the learner should be able to Define absolute, errors, relative error and percentage error	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.15	
	6	Approximation And Errors	Round off	By the end of the lesson the learner should be able to round off errors	Learners round off numbers	Chalkboard illustrations	Explore Maths Bk3 Pg.16	

	7	Approximation And Errors	Truncate errors	By the end of the lesson the learner should be able to truncate errors and calculate absolute, relative and percentage error	Learners truncate numbers	Chalkboard illustrations	Explore Maths Bk3 Pg.17	
6	1	Approximation And Errors	Operation of errors. Addition	By the end of the lesson the learner should be able to state the error involved when adding two measurements	Learners add numbers	Chalkboard illustrations	Explore Maths Bk3 Pg.18	
	2	Approximation And Errors	Error involved in subtraction	By the end of the lesson the learner should be able to © <i>Education Plus Agencies</i> state the error involved in subtraction	Learners calculate error involved in subtraction	Chalkboard illustrations	Explore Maths Bk3 Pg.19	
	3	Approximation And Errors	Error involved in multiplication	By the end of the lesson the learner should be able to state the error involved in multiplication	Learners calculate error involved in multiplication	Chalkboard illustrations	Explore Maths Bk3 Pg.20	
	4	Approximation And Errors	Error involved in division	By the end of the lesson the learner should be able to state the error involved in division	Learners calculate error involved in division	Chalkboard illustrations	Explore Maths Bk3 Pg.21	
	5	Approximation And Errors	Maximum and minimum errors	By the end of the lesson the learner should be able to find maximum and minimum errors from operations	Learners find minimum and maximum errors	Chalkboard illustrations	Explore Maths Bk3 Pg.22	
	6	Approximation And Errors	Error in calculating area of a triangle $A = \frac{1}{2}bh$ $A = \frac{1}{2}absin c$ $A = \sqrt{s(s-a)(s-b)(s-c)}$	By the end of the lesson the learner should be able to calculate the error involved in calculating area of a triangle	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.23	
	7	Approximation And Errors	Problem solving	By the end of the lesson the learner should be able to solve problems on approximation and errors	Learners solve problems	Past paper questions	Explore Maths Bk3 Pg.23	
7	1	Trigonometry	Review of form 2 work	By the end of the lesson the learner should be able to state the trigonometric ratios	Learners answer questions asked	Form two work	Explore Maths Bk3 Pg.50	

	2	Trigonometry	Unit circle	By the end of the lesson the learner should be able to define and draw the unit circle	Teacher/pupil discussion	Chart illustrating the unit circle Graph books	Explore Maths Bk3 Pg.51	
	3	Trigonometry	Sin, Cos, Tan of angles between 90° - 180°	By the end of the lesson the learner should be able to find the sin, Cos, tan of angles between 90° - 180° using the unit circle	Teacher/pupil discussion	Graph books Calculators	Explore Maths Bk3 Pg.52	
	4	Trigonometry	Sin, Cos, Tan of angles between 180° - 270°	By the end of the lesson the learner should be able to find the sin, Cos, tan of angles between 180° - 270° using the unit circle	Learners use unit circle to find Sin, Cos, Tan of angles	Graph books Calculators	Explore Maths Bk3 Pg.53	
	5	Trigonometry	Sin, Cos, Tan of angles between 270° - 360° using unit circle	By the end of the lesson the learner should be able to find the sin, Cos and tan of angles using the unit circle	Teacher/pupil discussion	Graph books	Explore Maths Bk3 Pg.53	
	6	Trigonometry	Sin, Cos, Tan of negative	By the end of the lesson the learner should be able to find the sin, cos and tan of negative angles	Teacher/pupil discussion	Calculators Chalkboard illustrations	Explore Maths Bk3 Pg.54	
	7	Trigonometry	Sin, Cos, Tan of angles greater than 360°	By the end of the lesson the learner should be able to find the sin, Cos, and tan of angles greater than 360°	Teacher/pupil discussion	Calculators Chalkboard illustrations	Explore Maths Bk3 Pg.55	
8	1	Trigonometry	Sin, Cos, Tan of angles between 0° - 360° using mathematical tables	By the end of the lesson the learner should be able to find the sin, Cos, and tan of angles between 0° and 360°	Learners must know and use SA to find Sin, Cos, Tan of angles	Mathematical tables Chalkboard illustrations	Explore Maths Bk3 Pg.56	
	2	Trigonometry	Radian measure	By the end of the lesson the learner should be able to define radian measure and change degrees to radians	Learners change degrees to radians	Chalkboard illustrations Mathematical tables	Explore Maths Bk3 Pg.57	
	3	Trigonometry	Radian measure	By the end of the lesson the learner should be able to change radians to degrees	Learners convert	Chalkboard illustrations	Explore Maths Bk3 Pg.59	

	4	Trigonometry	Trigonometric graphs $y = \sin x$	By the end of the lesson the learner should be able to draw the graph of $y = \sin x$ using degrees and radians	Learners draw graphs	Calculators Graph books Maths tables	Explore Maths Bk3 Pg.60	
	5	Trigonometry	Trigonometric graphs $y = \cos x$	By the end of the lesson the learner should be able to draw the graph of $y = \cos x$ using degrees and radians	Learners draw graphs	Calculators Graph books Maths tables	Explore Maths Bk3 Pg.61	
	6	Trigonometry	Trigonometric graphs $y = \tan x$	By the end of the lesson the learner should be able to draw the graph of $y = \tan x$	Learners draw the graphs	- Calculators - Graph books Maths tables	Explore Maths Bk3 Pg.62	
	7	Trigonometry	Sine rule	By the end of the lesson the learner should be able to derive the sine rule	Teacher/pupil discussion	- Calculators - Chalkboard illustrations	Explore Maths Bk3 Pg.63	
9	1	Trigonometry	Application of sine rule	By the end of the lesson the learner should be able to apply the sine rule	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.64	
	2	Trigonometry	Cosine rule	By the end of the lesson the learner should be able to derive the cosine rule	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.64	
	3	Trigonometry	Application of cosine rule	By the end of the lesson the learner should be able to apply the cosine rule	Teacher/pupil discussion	- Calculators - Chalkboard illustrations	Explore Maths Bk3 Pg.65	
	4	Trigonometry	Application of both cosine rule and sine rule	By the end of the lesson the learner should be able to use the cosine rule to solve triangles	Teacher/pupil discussion	- Calculators - Chalkboard illustrations	Explore Maths Bk3 Pg.64	
	5	Trigonometry	Problem solving	By the end of the lesson the learner should be able to solve problems on trigonometry	Teacher/pupil discussion	Past paper questions	Explore Maths Bk3 Pg.65	
	6	Surds	Rational and irrational numbers	By the end of the lesson the learner should be able to define a rational and irrational number and give examples of each	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.41	

	7	Surds	Simplify expressions with surd (addition of surds)	By the end of the lesson the learner should be able to simplify expressions with surd (addition)	Learners simplify	Chalkboard illustrations	Explore Maths Bk3 Pg.42	
10	1	Surds	Subtraction of surds	By the end of the lesson the learner should be able to subtract surds	Learners subtract surds	Chalkboard illustrations	Explore Maths Bk3 Pg.43	
	2	Surds	Multiplication of surds	By the end of the lesson the learner should be able to multiply surds	Learners multiply surds	Chalkboard illustrations	Explore Maths Bk3 Pg.44	
	3	Surds	Rationalize denominator	By the end of the lesson the learner should be able to rationalise the denominator	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.45	
	4	Surds	Application to trigonometry	By the end of the lesson the learner should be able to apply surds to trigonometry	Learners apply surds to trigonometry	Chalkboard illustrations	Explore Maths Bk3 Pg.46	
	5	Surds	Problem solving	By the end of the lesson the learner should be able to solve problems on trigonometry	Learners solve problems	Past paper questions	Explore Maths Bk3 Pg.47-49	
	6	Further Logarithms	Logarithmic notation	By the end of the lesson the learner should be able to derive logarithmic relation from index form	Learners move from indices to logs	Chalkboard illustrations	Explore Maths Bk3 Pg.86	
	7	Further Logarithms	Laws of logarithms multiplication	By the end of the lesson the learner should be able to state and apply the law of multiplication	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.87	
11	1	Further Logarithms	Law of division	By the end of the lesson the learner should be able to state and apply the law of division	Learners state law. Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.88	
	2	Further Logarithms	Law of division powers	By the end of the lesson the learner should be able to state and apply the law of powers	Learners state law. Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.89	
	3	Further Logarithms	Simplifying logarithmic expressions	By the end of the lesson the learner should be able to use logarithmic laws to simplify logarithmic expressions	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.90	

	4	Further Logarithms	Solving logarithmic equations	By the end of the lesson the learner should be able to use logarithmic laws to solve logarithmic equations	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.91	
	5	Further Logarithms	Application of logarithms	By the end of the lesson the learner should be able to apply laws of logarithms for further computation equations	Learners apply laws of trigonometry.	Chalkboard illustrations	Explore Maths Bk3 Pg.92	
	6	Further Logarithms	Problem solving	By the end of the lesson the learner should be able to solve problems on further logarithms.	Learners solve problems	Chalkboard illustrations	Explore Maths Bk3 Pg.92	
	7							
12	1	Commercial Arithmetic	Principal, rate and time	By the end of the lesson the learner should be able to define principal, rate and time in relation to interest	Teacher/pupil discussion	Previous work covered	Explore Maths Bk3 Pg.213	
	2	Commercial Arithmetic	Simple interest	By the end of the lesson the learner should be able to calculate simple interest using simple interest formula	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.214	
	3	Commercial Arithmetic	Compound interest	By the end of the lesson the learner should be able to calculate compound interest using step by step method	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.215	
	4	Commercial Arithmetic	Deriving the compound interest formula	By the end of the lesson the learner should be able to derive the compound interest formula	Learners derive the formula $A = p\frac{(1-r)^n}{100}$	Chalkboard illustrations	Explore Maths Bk3 Pg.215	
	5	Commercial Arithmetic	Calculating amount in compound interest	By the end of the lesson the learner should be able to calculate the amount in compound interest	Learners calculate the amount of compound interest	- Calculators - Chalkboard illustrations	Explore Maths Bk3 Pg.216	
	6	Commercial Arithmetic	Calculating the rate in compound interest	By the end of the lesson the learner should be able to calculate the rate in compound interest	Learners calculate the rate	- Calculators - Chalkboard illustrations	Explore Maths Bk3 Pg.217	

	7	Commercial Arythmetic	Calculating the time in compound interest	By the end of the lesson the learner should be able to calculate the time in compound interest	Learners calculate the time	- Calculators - Chalkboard illustrations	Explore Maths Bk3 Pg.218	
13	1	Commercial Arythmetic	Calculating the principal in compound interest	By the end of the lesson the learner should be able to calculate the principal in compound interest	Learners calculate the principal	- Calculators - Chalkboard illustrations	Explore Maths Bk3 Pg.219	
	2	Commercial Arythmetic	Calculating the interest in compound interest	By the end of the lesson the learner should be able to calculate the interest in compound interest	Learners calculate the interest	- Calculators - Chalkboard illustrations	Explore Maths Bk3 Pg.220	
	3	Commercial Arythmetic	Appreciation	By the end of the lesson the learner should be able to define appreciation and calculate problems involving appreciation	Learners calculate problems	Chalkboard illustrations	Explore Maths Bk3 Pg.220	
	4	Commercial Arythmetic	Depreciation $A = p \frac{(1-r)^n}{100}$	By the end of the lesson the learner should be able to define depreciation and calculate problems involving depreciation	Learners calculate problems	- Calculators - Chalkboard illustrations	Explore Maths Bk3 Pg.221	
	5	Commercial Arythmetic	Hire purchase	By the end of the lesson the learner should be able to calculate hire purchase	Learners calculate Hire purchase	- Calculators - Chalkboard illustrations	Explore Maths Bk3 Pg.222	
	6	Commercial Arythmetic	Income tax	By the end of the lesson the learner should be able to calculate income tax given the income tax bands	Learners calculate income tax	- Calculators - Chalkboard illustrations - Income tax bands	Explore Maths Bk3 Pg.223	
	7	Commercial Arythmetic	Income tax	By the end of the lesson the learner should be able to calculate basic salary given income tax bands, income tax relief.	Learners calculate the basic salary	- Chalkboard illustrations - Income tax bands	Explore Maths Bk3 Pg.225-227	
14	END OF TERM EXAMINATION							
15	PREPARATION OF REPORTS AND CLOSING							

MATHEMATICS, F3, T2

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WK	LSN	TOPIC	SUB-TOPIC	OBJECTIVES	L/ACTIVITIES	L/T AIDS	REFERENCE	REMARKS	
1	1-6	REPORTING AND REVISION OF LAST TERM'S EXAMS							
2	1&2	REVISION OF EXAMS							
	3	Circles, Chords And Tangents	Length of a arc	By the end of the lesson the learner should be able to calculate the length of a arc	Learners draw circle calculate length of an arc	Previous work covered	Explore Maths Bk3 Pg107		
	4	Circles, Chords And Tangents	Chord A line from the centre of a circle is a perpendicular bisector of a chord	By the end of the lesson the learner should be able to prove the property of a c and a perpendicular line perpendicular to a chord	Learners draw circle and prove the property	- Chalkboard illustrations - Pair of compass	Explore Maths Bk3 Pg.102		
	5	Circles, Chords And Tangents	Equal chords	By the end of the lesson the learner should be able to state the property of equal chords and use it to calculate measurements	Learners use the property to calculate measurements	- Pair of compass, - ruler - Chalkboard illustrations	Explore Maths Bk3 Pg.103		
	6	Circles, Chords And Tangents	Parallel chords on the same side of the centre of a circle	By the end of the lesson the learner should be able to state the property of Parallel chords and use it to calculate measurements	Learners calculate measurements	- Pair of compass, - ruler - Chalkboard illustrations	Explore Maths Bk3 Pg.103		
	7	Circles, Chords And Tangents	Parallel chords on an opposite side of the centre of a circle	By the end of the lesson the learner should be able to calculate the radius of a circle given two parallel chords on opposite sides of the circle	Learners calculate	Chalkboard illustrations	Explore Maths Bk3 Pg.		
3	1	Circles, Chords And Tangents	Intersecting chords (intersect inside a circle)	By the end of the lesson the learner should be able to calculate the length of chords that intersect inside a circle	Learners use similarity to derive a formula to calculate the length of a chord	Chalkboard illustrations	Explore Maths Bk3 Pg.104		
	2	Circles, Chords And Tangents	Intersecting chords (intersect outside a circle)	By the end of the lesson the learner should be able to calculate the length of chords that intersect outside a circle	Learners use similarity to derive a formula	Chalkboard illustrations	Explore Maths Bk3 Pg104		

	3	Circles, Chords And Tangents	Tangent to a circle	By the end of the lesson the learner should be able to construct a tangent to a circle	Teacher/pupil discussion	- Pair of compass, - ruler - Chalkboard illustrations	Explore Maths Bk3 Pg105	
	4	Circles, Chords And Tangents	Constructing a tangent from an external point	By the end of the lesson the learner should be able to construct a tangent from an external point	Teacher/pupil discussion	- Pair of compass, - Ruler - Chalkboard illustrations	Explore Maths Bk3 Pg138-139	
	5	Circles, Chords And Tangents	Direct common Tangent	By the end of the lesson the learner should be able to construct a direct common tangent to two circles	Teacher/pupil discussion	- Pair of compass, - Ruler - Chalkboard illustrations	Explore Maths Bk3 Pg140-143	
	6	Circles, Chords And Tangents	Transverse Tangents	By the end of the lesson the learner should be able to construct a transverse common tangent to two circles	Teacher/pupil discussion	- Pair of compass, - ruler - set square	Explore Maths Bk3 Pg. 151	
	7	Circles, Chords And Tangents	Angles in alternate segment	By the end of the lesson the learner should be able to relate angles in alternate segment	Teacher/pupil discussion	- Pair of compass, - ruler	Explore Maths Bk3 Pg153	
4	1	Circles, Chords And Tangents	Circumscribed circle	By the end of the lesson the learner should be able to construct a circumscribed circle	Teacher/pupil discussion	- Pair of compass, - ruler	Explore Maths Bk3 Pg. 147	
	2	Circles, Chords And Tangents	Inscribed circle	By the end of the lesson the learner should be able to construct an inscribed circle	Teacher/pupil discussion	- Ruler - Pair of compass,	Explore Maths Bk3 Pg206	
	3	Circles, Chords And Tangents	Escribed circle	By the end of the lesson the learner should be able to construct an escribed circle	Discussion	- Ruler - pair of compass	Explore Maths Bk3 Pg208	
	4	Circles, Chords And Tangents	Contact circle Internal contact	By the end of the lesson the learner should be able to solve problems on contact circles (internal contact)	Teacher/pupil discussion	- Ruler - Pair of compass	Explore Maths Bk3 Pg210	

	5	Circles, Chords And Tangents	external contact	By the end of the lesson the learner should be able to solve problems on contact circles which are external contact	Learners draw two circles with external contact	- Pair of compass - Chalkboard illustrations	Explore Maths Bk3 Pg146	
	6	Circles, Chords And Tangents	Centroid	By the end of the lesson the learner should be able to locate centroid of a circle	Learners draw a triangle and locate the centroid	- Pair of compass - Chalkboard illustrations	Explore Maths Bk3 Pg211	
	7	Circles, Chords And Tangents	Orthocenter	By the end of the lesson the learner should be able to locate orthocenter of a circle	Learners draw a triangle and locate the orthocentre	- Pair of compass - Chalkboard illustrations	Explore Maths Bk3 Pg211	
5	1	Circles, Chords And Tangents	Application of tangents and chords to real life situation	By the end of the lesson the learner should be able to apply the knowledge of tangents and chords to real life situation	Teacher/pupil discussion	- Pulleys - A bicycle - calculator	Explore Maths Bk3 Pg153-154	
	2	Circles, Chords And Tangents	Problem solving	By the end of the lesson the learner should be able to solve problems on tangents and chords	Question answer method	Past paper questions	Explore Maths Bk3 Pg212	
	3	Circles, Chords And Tangents	Problem solving	By the end of the lesson the learner should be able to solve problems on real life situations	Question answer method	Past paper questions	Past papers	
	4	Matrices	Definition order of a matrix	By the end of the lesson the learner should be able to define a matrix State the order of a matrix	Teacher defines, learners state the order	Chalkboard illustrations	Explore Maths Bk3 Pg93	
	5	Matrices	Square matrix	By the end of the lesson the learner should be able to define a square matrix and use it to state its order	Learners give examples of square matrices	Chalkboard illustrations	Explore Maths Bk3 Pg94	
	6	Matrices	Addition of matrices	By the end of the lesson the learner should be able to add two matrices	Learners add matrices	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg94	
	7	Matrices	subtraction of matrices	By the end of the lesson the learner should be able to subtract two matrices	Learners subtract matrices	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg95	

6	1	Matrices	multiplication by a scalar	By the end of the lesson the learner should be able to © <i>Education Plus Agencies</i> multiply a matrix and a scalar	Learners multiply a matrix by a scalar	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg96	
	2	Matrices	multiplication of two matrices	By the end of the lesson the learner should be able to multiply two matrices	Learners multiply two matrices	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg97-99	
	3	Matrices	Identify matrix	By the end of the lesson the learner should be able to identify an identity matrix	Learners identify an identity matrix	- Chalkboard illustrations	Explore Maths Bk3 Pg180-182	
	4	Matrices	Determinant of a matrix	By the end of the lesson the learner should be able to find the determinant of a 2 by 2 matrix	Learners find the determinant of a matrix	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg182	
	5	Matrices	Inverse of 2 by 2 matrix	By the end of the lesson the learner should be able to find the inverse of a 2 by 2 matrix	Teacher leads pupil to find the inverse	Chart illustrating the steps of finding the inverse	Explore Maths Bk3 Pg182-183	
	6	Matrices	Singular matrix	By the end of the lesson the learner should be able to identify a singular matrix and find the elements of a singular matrix	Learners identify singular matrix	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg184	
	7	Matrices	Solving simultaneous equations	By the end of the lesson the learner should be able to solve simultaneous equations by the matrix method	Teacher leads pupil to solve simultaneous equations	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg185	
7	1	Matrices	Solving simultaneous equations which have fractions using matrices	By the end of the lesson the learner should be able to solve simultaneous equations which involve fractions by the matrix method	Learners solve equations	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg186-187	
	2	Matrices	Problem solving	By the end of the lesson the learner should be able to solve problems involving matrices	Learners solve problems	Past paper questions	Explore Maths Bk3 Pg188	
	3	Formulae And Variations	Change of subject	By the end of the lesson the learner should be able to rewrite a given formula by changing the subject	Learners change subjects of simple formula	Chart illustrating change of subject	Explore Maths Bk3 Pg37	

	4	Formulae And Variations	Change of subject involving roots and subjects	By the end of the lesson the learner should be able to rewrite a given formula by changing the subject especially formulas with roots and powers	Teacher leads pupil to make subject of formula	Chalkboard illustrations	Explore Maths Bk3 Pg38-39	
	5	Formulae And Variations	Direct variation	By the end of the lesson the learner should be able to define direct variation Identify the constant of proportionality	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg112	
	6	Formulae And Variations	Graphs of direct variation	By the end of the lesson the learner should be able to draw graphs of direct variation	Learners draw graphs	Graph papers	Explore Maths Bk3 Pg113-118	
	7	Formulae And Variations	Inverse variation	By the end of the lesson the learner should be able to define inverse variation Determine the constant of proportionality	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg119	
8	1	Formulae And Variations	Graphs of inverse variation	By the end of the lesson the learner should be able to draw the graph of inverse variation	Learners draw graphs	- Graph papers - Chalkboard illustrations	Explore Maths Bk3 Pg120	
	2	Formulae And Variations	Joint variation	By the end of the lesson the learner should be able to define joint variation Determine the constant of proportionality	Learners solve given problems	Chalkboard illustrations	Explore Maths Bk3 Pg121	
	3	Formulae And Variations	Percentage change in variable	By the end of the lesson the learner should be able to Determine the percentage change in a variable given the increase and decrease of the other variable	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg122	

	4	Formulae And Variations	Partial variation	By the end of the lesson the learner should be able to define partial variation Determine the constant of proportionality in partial variation	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg123	
	5	Formulae And Variations	Partial variation problem solving	By the end of the lesson the learner should be able to solve problems on partial variation	Learners form equations from given information	Chalkboard illustrations	Explore Maths Bk3 Pg123	
	6	Formulae And Variations	Formation and solving equations	By the end of the lesson the learner should be able to form and solve problems on partial variation	Learners solve problems	Chalkboard illustrations	Explore Maths Bk3 Pg124	
	7	Formulae And Variations	Application to real life situation	By the end of the lesson the learner should be able to use variation to solve everyday life problems	Learners answer questions	Chalkboard illustrations	Explore Maths Bk3 Pg125	
9	1	Formulae And Variations	Problem solving	By the end of the lesson the learner should be able to solve problems on formula and variation	Learners solve problems	Chalkboard illustrations	Explore Maths Bk3 Pg125 Past papers	
	2	Sequences And Series	Number patens	By the end of the lesson the learner should be able to Identify simple number patens	Learners identify number patens	Chart illustrating different number patens	Explore Maths Bk3 Pg189	
	3	Sequences And Series	Number patens	By the end of the lesson the learner should be able to Identify the patens for a given set of numbers and deduce the general rule	Learners deduce the general rule	Chalkboard illustrations	Explore Maths Bk3 Pg190-191	
	4	Sequences And Series	Sequence	By the end of the lesson the learner should be able to define a sequence Determine a term in a sequence	Learners define sequence	Chalkboard illustrations	Explore Maths Bk3 Pg192	

	5	Sequences And Series	Arithmetic Sequence	By the end of the lesson the learner should be able to define the arithmetic Sequence and state a term in arithmetic Sequence	Learners should be able to use the formula $a+(n-1)d$ to find a term	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg194	
	6	Sequences And Series	Arithmetic Sequence	By the end of the lesson the learner should be able to apply the formula $a+(n-1)d$ to find the first term and the common difference	Learners calculate the first term and the common difference	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg195	
	7	Sequences And Series	Geometric Sequence	By the end of the lesson the learner should be able to define a geometric sequence and state a term in the geometric sequence	Learners use the formula ar^{n-1} to find a term	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg195	
10	1	Sequences And Series	Geometric Sequence	By the end of the lesson the learner should be able to apply the formula ar^{n-1} to find the first term and the common ratio	Learners calculate the first term	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg196	
	2	Sequences And Series	Arithmetic series	By the end of the lesson the learner should be able to define an arithmetic series	Discussions	Chalkboard illustrations	Explore Maths Bk3 Pg197	
	3	Sequences And Series	Deriving the arithmetic series formula	By the end of the lesson the learner should be able to derive the formula $s_n = n(2a+(n-1)d)$	Learners derive the formula	Chalkboard illustrations	Explore Maths Bk3 Pg198	
	4	Sequences And Series	Application of AP formula	By the end of the lesson the learner should be able to apply the A-P formula to solve problems	Learners solve problems	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg199-200	
	5	Sequences And Series	Geometric series	By the end of the lesson the learner should be able to define a geometric series	Discussions	illustrations	Explore Maths Bk3 Pg201	

	6	Sequences And Series	Deriving the Geometric series	By the end of the lesson the learner should be able to derive the formula $s^n = \frac{a(r^n - 1)}{r - 1}$ or $s^n = \frac{a(1 - r^n)}{1 - r}$	Learners derive the formula	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg202	
	7	Sequences And Series	Application of the AP formula	By the end of the lesson the learner should be able to apply the GP formula to solve problems	Learners solve problems	Chalkboard illustrations	Explore Maths Bk3 Pg203-204	
11	1	Sequences And Series	Application to real life situation	By the end of the lesson the learner should be able to apply the A.P and G.P formula to solve problems in real life situations	Learners solve problems	Chalkboard illustrations	Explore Maths Bk3 Pg205	
	2	Sequences And Series	Problem solving	By the end of the lesson the learner should be able to solve problems on sequence and series	Learners solve problems	Past paper questions	Past papers	
	3	Vector (2)	Coordinates in two dimensions	By the end of the lesson the learner should be able to locate a point in two dimension coordinate system	Learners draw a Cartesian plane and locate a point	Chart illustrating two dimension coordinates	Explore Maths Bk3 Pg234	
	4	Vector (2)	Coordinates in 3 dimensions	By the end of the lesson the learner should be able to locate a point in three dimension coordinate system	Learners draw a 3 dimension Cartesian plane and locate a point	Model of cube and a cuboid	Ex Explore Maths Bk3 Pg 235	
	5	Vector (2)	Column vector in 3 dimensions	By the end of the lesson the learner should be able to represent vectors as column vectors in three dimension	Learners represent vectors in 3 dimension	Model of a cube	Explore Maths Bk3 Pg235	
	6	Vector (2)	Position vector in 3 dimensions	By the end of the lesson the learner should be able to represent vectors as position vectors in three dimension	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg235	
	7	Vector (2)	Column vector and Position vector	By the end of the lesson the learner should be able to distinguish between a column vector from a position vector	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg237	

12	1	Vector (2)	Column vectors in terms of i, j and k	By the end of the lesson the learner should be able to represent column vectors in terms of i, j and k	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg236	
	2	Vector (2)	Magnitude of vector in 3 dimension	By the end of the lesson the learner should be able to determine the magnitude of a vector in three dimensions	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg238	
	3	Vector (2)	Internal division of a line	By the end of the lesson the learner should be able to use vector method to divide a line internally	Teacher/pupil discussion	illustrations	Explore Maths Bk3 Pg245	
	4	Vector (2)	External division of a line	By the end of the lesson the learner should be able to use vector method in dividing a line externally	Learners state the ratio in which a point divides a line	Chalkboard illustrations	Explore Maths Bk3 Pg246	
	5	Vector (2)	Parallel vectors	By the end of the lesson the learner should be able to use vector method to show collinearity	Learners show parallelism	Chalkboard illustrations	Explore Maths Bk3 Pg243	
	6	Vector (2)	Co linearity	By the end of the lesson the learner should be able to show collinearity	Learners show collinearity	Chalkboard illustrations	Explore Maths Bk3 Pg244	
	7	Vector (2)	Problem solving	By the end of the lesson the learner should be able to solve problems on vectors	Learners solve problems	Past paper questions	Past papers	
13	1	Vector (2)		By the end of the lesson the learner should be able to			Explore Maths Bk3 Pg	
	2	Vector (2)		By the end of the lesson the learner should be able to			Explore Maths Bk3 Pg	
	3	Vector (2)		By the end of the lesson the learner should be able to			Explore Maths Bk3 Pg	
	4	Vector (2)		By the end of the lesson the learner should be able to			Explore Maths Bk3 Pg	

	5	Vector (2)		By the end of the lesson the learner should be able to			Explore Maths Bk3 Pg	
	6	Vector (2)		By the end of the lesson the learner should be able to			Explore Maths Bk3 Pg	
	7	Vector (2)		By the end of the lesson the learner should be able to			Explore Maths Bk3 Pg	
14	END TERM EXAMINATION AND CLOSING SCHOOL							

MATHEMATICS, F3, T3

REFERENCES: Advancing in Mathematics BK 4 By Longhorn Kenya Publishers, Secondary Mathematics BK 4 By KLB, Macmillan Secondary Maths BK 2, Explore Mathematics

WK	LSN	TOPIC	SUB-TOPIC	OBJECTIVES	L/ACTIVITIE	L/T AIDS	REFERENCE	REMARKS	
1	1-6	REPORTING AND REVISION OF LAST TERM'S EXAMS							
2	1&2	REVISION OF EXAMS							
	3	Vector (2)	Deriving the ratio theorem for internal division of a line	By the end of the lesson the learner should be able to derive the ratio theorem for internal division of a line	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg. 258		
	4	Vector (2)	Deriving the ratio theorem for external division of a line	By the end of the lesson the learner should be able to derive the ratio theorem for external division of a line	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.267		
	5	Vector (2)	Application of the ratio theorem	By the end of the lesson the learner should be able to apply ratio theorem to solve a vector problem	Learners use the ratio theorem	Chalkboard illustrations	Explore Maths Bk3 Pg.268-269		
	6	Vector (2)	Application of vector to geometry	By the end of the lesson the learner should be able to apply vector to geometry	Learners apply vector to geometry	Chalkboard illustrations	Explore Maths Bk3 Pg.261-263		
	7	Vector (2)	Problem solving	By the end of the lesson the learner should be able to solve problems on vectors	Learners solve problems	Past paper questions	Past papers		
3	1	Binomial Expansions	Expansion up to power 4	By the end of the lesson the learner should be able to expand binomial expressions up to power 4 by multiplication	Learners expand the expansions	Chalkboard illustrations	Explore Maths Bk3 Pg.228		
	2	Binomial Expansions	Pascal's triangle	By the end of the lesson the learner should be able to build up Pascal's triangle up to the eleventh row	Teacher/pupil discussion	Chart illustrating Pascal's triangle illustrations	Explore Maths Bk3 Pg.229		
	3	Binomial Expansions	Coefficient of terms in binomial expansion	By the end of the lesson the learner should be able to use Pascal's triangle to determine the coefficient of terms in a binomial expansion up to the power of 10	Learners determine the coefficient	Chalkboard illustrations	Explore Maths Bk3 Pg.230		

	4	Binomial Expansions	Computation using binomial expansion	By the end of the lesson the learner should be able to compute using binomial expansion	Learners compute using the expansion	Chalkboard illustrations	Explore Maths Bk3 Pg.231	
	5	Binomial Expansions	Stating terms	By the end of the lesson the learner should be able to state a certain term in a binomial expansion	Learners state the terms	Chalkboard illustrations	Explore Maths Bk3 Pg.232	
	6	Binomial Expansions	Numerical cases	By the end of the lesson the learner should be able to apply binomial expansion to numerical cases	Learners apply expansions to numerical cases	Chalkboard illustrations	Explore Maths Bk3 Pg.232	
	7	Binomial Expansions	Problem solving	By the end of the lesson the learner should be able to solve problems on binomial expansions	Learners solve problems	Chalkboard illustrations	Explore Maths Bk3 Pg.233	
4	1	Probability	Definition experimental probability	By the end of the lesson the learner should be able to Define probability Determine probability from experiments	- Learners toss a coin and write down the outcome on a table. - Learners toss a dice	- Coin - Die	Explore Maths Bk3 Pg.171	
	2	Probability	Probability from real life situation	By the end of the lesson the learner should be able to give examples of real life situation and give their probabilities	Learners state real life examples	Chalkboard illustrations	Explore Maths Bk3 Pg.172-173	
	3	Probability	Construct a probability space	By the end of the lesson the learner should be able to construct a probability space	Learners construct a probability space by tossing two dice at the same time	- Coin - Die	Explore Maths Bk3 Pg.174	
	4	Probability	Range of probability measure	By the end of the lesson the learner should be able to state the range of probability measure	Learners state the range of probability	Chalkboard illustrations	Explore Maths Bk3 Pg.175	
	5	Probability	Theoretical probability	By the end of the lesson the learner should be able to determine theoretical probability	Learners determine theoretical probability	Chalkboard illustrations	Explore Maths Bk3 Pg.176	

	6	Probability	Discrete probability	By the end of the lesson the learner should be able to define discrete probability and determine the probability	Learners give examples of discrete probability	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg.177	
	7	Probability	Continuous probability	By the end of the lesson the learner should be able to define continuous probability and determine the probability	Learners give examples of continuous probability	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg.247	
5	1	Probability	Mutually exclusive events	By the end of the lesson the learner should be able to define mutually exclusive events and give examples	Learners give examples	Chalkboard illustrations	Explore Maths Bk3 Pg.249	
	2	Probability	Solve problems involving mutually exclusive events	By the end of the lesson the learner should be able to solve problems involving mutually exclusive events	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.250	
	3	Probability	Independent events	By the end of the lesson the learner should be able to define independent events and give examples	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.251	
	4	Probability	Problem solving on independent events	By the end of the lesson the learner should be able to solve problems involving independent events	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.252	
	5	Probability	Problem solving on independent events	By the end of the lesson the learner should be able to state the laws of probability	Learners state laws	Chalkboard illustrations	Explore Maths Bk3 Pg.253	
	6	Probability	Application of the laws	By the end of the lesson the learner should be able to apply the laws of probability	Learners solve problems	Chalkboard illustrations	Explore Maths Bk3 Pg.254	
	7	Probability	Tree diagrams	By the end of the lesson the learner should be able to use tree diagrams to show probabilities	Learners draw tree diagrams from given information	Chalkboard illustrations	Explore Maths Bk3 Pg.255	
6	1	Probability	Tree diagrams (with replacement)	By the end of the lesson the learner should be able to © <i>Education Plus Agencies</i> solve problems of picking items with replacement using tree diagrams	Learners draw trees from information	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg.256	

	2	Probability	Without replacement	By the end of the lesson the learner should be able to solve problems of picking items with replacement using tree diagrams	Learners draw trees diagrams from information	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg.257	
	3	Probability	Problem solving	By the end of the lesson the learner should be able to solve problems on probability	Learners solve problems	- Calculators - Past paper questions	Explore Maths Bk3 Pg.256	
	4	Probability	Definition of terms used	By the end of the lesson the learner should be able to explain terms like at least, at most, not more than, not less than with respect to probability	Learners define terms	Dictionary	Explore Maths Bk3 Pg.257	
	5	Compound Proportions And Rates Of Work	Proportional parts Ratio method	By the end of the lesson the learner should be able to solve problems involving compound proportions using the ratio method	Teacher/pupil discussion	Calculators	Explore Maths Bk3 Pg.126 131-132	
	6	Compound Proportions And Rates Of Work	Proportional parts Unitary method	By the end of the lesson the learner should be able to solve problems involving compound proportions using the unitary method	Teacher/pupil discussion	Calculators	Explore Maths Bk3 Pg.127	
	7	Compound Proportions And Rates Of Work	Application of ratios to real life situation	By the end of the lesson the learner should be able to apply ratios to real life situations	Learners apply ratios to real life situations	Chalkboard illustrations	Explore Maths Bk3 Pg.128	
7	1	Compound Proportions And Rates Of Work	Application of proportion to real life situation	By the end of the lesson the learner should be able to apply proportion to real life situation	Learners apply proportion to real life situation	Chalkboard illustrations	Explore Maths Bk3 Pg.129	
	2	Compound Proportions And Rates Of Work	Rates of work	By the end of the lesson the learner should be able to solve problems involving rates of work	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.133	
	3	Compound Proportions And Rates Of Work	Mixtures	By the end of the lesson the learner should be able to calculate the ratio in which the mixture must be mixed	Learners calculate ratio of the mixture	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg.134	

	4	Compound Proportions And Rates Of Work	Mixtures	By the end of the lesson the learner should be able to calculate the cost of the mixture given the ratio in which the mixture is mixed	Learners calculate cost of mixture	- Chalkboard illustrations - calculators	Explore Maths Bk3 Pg.135	
	5	Compound Proportions And Rates Of Work	Problem solving	By the end of the lesson the learner should be able to solve problems on compound proportions and rates of work	Learners solve problems	Past paper questions	Explore Maths Bk3 Pg.136-137	
	6	Graphical Methods	Tables from a given relation	By the end of the lesson the learner should be able to make a table of values from given relations	Learners make tables of values	Relations	Explore Maths Bk3 Pg.271	
	7	Graphical Methods	Drawing graphs	By the end of the lesson the learner should be able to use the table of values to draw graph of the relations	Learners draw graphs	Tables tabulated	Explore Maths Bk3 Pg.272	
8	1	Graphical Methods	Cubic equations	By the end of the lesson the learner should be able to graph cubic equations	Learners draw cubic graphs	Graph papers	Explore Maths Bk3 Pg.274	
	2	Graphical Methods	Solution of cubic equations	By the end of the lesson the learner should be able to state the graphical solutions of cubic equations	Learners read out the solutions from the graph	Cubic graphs	Explore Maths Bk3 Pg.275	
	3	Graphical Methods	Average rate of change	By the end of the lesson the learner should be able to determine the average rate of change	Teacher/pupil discussion	Chalkboard illustrations Graphs	Explore Maths Bk3 Pg.278-279	
	4	Graphical Methods	Instantaneous rate of change	By the end of the lesson the learner should be able to determine and interpret instantaneous rate of change from the graph	Teacher/pupil discussion	Graphs draws	Explore Maths Bk3 Pg.280-283	
	5	Graphical Methods	Empirical graphs Rewriting the equation in the form of $y=mx+c$	By the end of the lesson the learner should be able to rewrite equations given in the form of $y=mx+c$ to give a straight line graph	Learners rewriting equations in the form $y=mx+c$	$y=ax^n$ $y=U+b$ x	Explore Maths Bk3 Pg.287-290	
	6	Graphical Methods	Empirical graphs	By the end of the lesson the learner should be able to draw and interpret empirical graphs	Learners draw empirical graphs	Graph papers	Explore Maths Bk3 Pg.292	

	7	Graphical Methods	Lines of best fit	By the end of the lesson the learner should be able to draw the line of best fit	Learners draw lines of best fit	Graph papers	Explore Maths Bk3 Pg.293-295	
9	1	Graphical Methods	Equation of a circle centre (0,0)	By the end of the lesson the learner should be able to derive the equation of a circle centre (0,0) radius r units	Teacher/pupil discussion	Chalkboard illustrations	Explore Maths Bk3 Pg.297	
	2	Graphical Methods	Equation of a circle centre (a,b) radius v units	By the end of the lesson the learner should be able to derive the equation of a circle centre (a,b) radius r units	Teacher leads learners to derive $(x-a)^2+(y-b)^2=r^2$	Chalkboard illustrations	Explore Maths Bk3 Pg.298	
	3	Graphical Methods	Find the equation given centre and radius	By the end of the lesson the learner should be able to find the equation of a circle given the centre and radius of a circle	Learners find equations	Chalkboard illustrations	Explore Maths Bk3 Pg.299	
	4	Graphical Methods	Finding centre and radius given equation	By the end of the lesson the learner should be able to find the centre and radius of a circle given its equation	Learners determine centre and radius	Chalkboard illustrations	Explore Maths Bk3 Pg.299	
	5	Graphical Methods	Application to real life situation	By the end of the lesson the learner should be able to apply graphical methods to real life situation and solve problems	Learners solve problems	Chalkboard illustrations	Explore Maths Bk3 Pg.300	
	6 and 7	Graphical Methods	Problem solving	By the end of the lesson the learner should be able to solve problems on graphical methods	Learners solve problems	Past paper questions	Explore Past paper questions	
10		TOPICAL REVISION						
11		END OF YEAR EXAMINATIONS						
12		PREPARATION OF REPORTS AND CLOSING						