

SCHEME OF WORK FORM TWO MATHEMATICS TERM ONE YEAR 2019							
WK/ NO.	L/ NO	TOPIC/ SUBTOPIC	LESSON / SPECIFIC OBJECTIVES	TEACHING / LEARNING ACTIVITIES	MATERIALS / RESOURCES	REFERE-NCES	REMARKS
1	1	CUBES AND CUBE ROOTS Cubes by multiplication. (whole numbers)	By the end of the lesson, the learner should be able to: Find cubes of whole numbers by multiplication. Find cubes of negative numbers .	Worked examples on cubing algebraic terms; Oral exercise; Written exercise.		<i>KLB BK II Pg 1</i>	
	2	Cubes by multiplication. (decimal numbers)	By the end of the lesson, the learner should be able to: Find cubes of positive and negative decimal numbers by multiplication .	Worked examples; Supervised practice; Written exercise.		<i>KLB BK II Pg 1</i>	
	3	Using tables to find cubes. (Whole numbers)	By the end of the lesson, the learner should be able to: Use tables to find cubes of whole numbers .	Review standard form of numbers; Guided discovery; Supervised practice; Written exercise.	Mathematical tables.	<i>KLB BK II Pgs 2 - 3</i>	
	4	Using tables to find cubes. (1& 2dec. pl)	By the end of the lesson, the learner should be able to: Use tables to find cubes of numbers with one /two decimal places .	Worked examples; Supervised practice; Written exercise.	Mathematical tables.	<i>KLB BK II Pgs 2 - 3</i>	
	5	Using tables to find cubes. (3,4 dec. pl)	By the end of the lesson, the learner should be able to: Use tables to find cubes of numbers having three / four decimal places .	Worked examples; Supervised practice; Written exercise.	Mathematical tables.	<i>KLB BK II Pgs 2 - 3</i>	

	6	Cube roots by factor method.	By the end of the lesson, the learner should be able to: Find cube roots by factor method. Find cube roots of algebraic terms .	Questioning to review cube of numbers; Oral exercise; Written exercise; Exercise review.		<i>KLB BK II Pgs 3 - 4</i>	
2	1	Using tables to find cube roots. <i>(whole numbers)</i>	By the end of the lesson, the learner should be able to: Use tables to find cube roots of numbers.	Guided discovery; Supervised practice; Oral exercise; Written exercise; Exercise review.	Mathematical tables.	<i>KLB BK II Pgs 3 - 4</i>	
	2	Using tables to find cube roots. <i>(decimals)</i>	By the end of the lesson, the learner should be able to: Use tables to find cube roots of decimal numbers.	Guided discovery; Supervised practice; Oral exercise; Written exercise; Exercise review.	Mathematical tables.	<i>KLB BK II Pgs 3 - 4</i>	
	3	RECIPROCAL Reciprocal by division.	By the end of the lesson, the learner should be able to: Find reciprocal of numbers by division.	Review recurring decimals; Oral exercise; Discover relation between size of a number and its reciprocal; Assignment.		<i>KLB BK II Pg 5</i>	

	4	Reciprocal from tables. (whole numbers)	By the end of the lesson, the learner should be able to: Use tables to find reciprocal of whole numbers.	Questioning to review standard form of numbers; Guided discovery; Supervised practice; Oral exercise; Written exercise; Exercise review.	Mathematical tables.	<i>KLB BK II</i> <i>Pgs 5 - 6</i>	
	5	Reciprocal from tables. (Decimal numbers)	By the end of the lesson, the learner should be able to: Use tables to find reciprocal of decimal numbers.	Guided discovery; Supervised practice; Oral exercise; Written exercise; Exercise review.	Mathematical tables.	<i>KLB BK II</i> <i>Pgs 5 - 6</i>	
	6	INDICES AND LOGARITHMS Bases and indices. Law of multiplication.	By the end of the lesson, the learner should be able to: Identify bases and indices. Apply the law of multiplication of indices.	Q/A to review powers; Exposition of bases and indices; Guided discovery; Worked examples; Oral and written exercises.		<i>KLB BK II</i> <i>Pgs 7</i>	
3	1	Law of division.	By the end of the lesson, the learner should be able to: Apply the law of division of indices.	Guided discovery; Oral and written exercises.		<i>KLB BK II</i> <i>Pgs 5 - 6</i>	
	2	Multiplication & division.	Apply the laws of multiplication and division of indices.	Worked examples; Written exercises; Exercise review.		<i>KLB BK II</i> <i>Pgs 5 - 6</i>	

	3	Product of two powers.	By the end of the lesson, the learner should be able to: Apply the law of product of two powers.	Guided discovery; Worked examples; Oral and written exercises.		<i>KLB BK II Pgs 5 -6, 12 - 13</i>	
	4	Negative indices.	By the end of the lesson, the learner should be able to: Evaluate expressions having negative indices.	Guided discovery; Oral and written exercises.		<i>KLB BK II Pgs 5 -6, 12 - 13</i>	
	5	Negative indices with both multiplication and division.	By the end of the lesson, the learner should be able to: Evaluate further expressions having negative indices.	Worked examples; Written exercises; Exercise review.		<i>KLB BK II Pgs 5 -6, 12 - 13</i>	
	6	Zero index & fractional indices.	By the end of the lesson, the learner should be able to: Evaluate expressions having zero index and fractional indices.	Guided discovery; Worked examples; Problem solving; Oral and written exercises.		<i>KLB BK II Pgs 8 - 13</i>	

4	1	Indices and square root.	By the end of the lesson, the learner should be able to: Evaluate expressions square root.	Probing questions; Guided discovery; Problem solving; Oral and written exercises.		<i>KLB BK II Pgs 8 - 13</i>	
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2	Indices and cube root.	By the end of the lesson, the learner should be able to: Evaluate expressions cube root.	Probing questions; Guided discovery; Problem solving; Oral and written exercises.		<i>KLB BK II Pgs 8 - 13</i>	
3	Indices and other roots.	By the end of the lesson, the learner should be able to: Evaluate expressions cube root.	Problem solving; written exercises; Exercise review.		<i>KLB BK II Pgs 8 - 13</i>	
4	Logarithms. Logarithmic notations.	By the end of the lesson, the learner should be able to: Interpret logarithmic notations.	Exposition of logarithmic notations. Oral exercise.		<i>KLB BK II Pgs 13 - 15</i>	
5	Index form and logarithmic form.	By the end of the lesson, the learner should be able to: relate index form and logarithmic form.	Guided discovery; Worked examples; Problem solving; Oral and written exercises.		<i>KLB BK II Pgs 13 - 15</i>	
6	Common logs of numbers between 1 and 9.99.	By the end of the lesson, the learner should be able to: Read off common logs of numbers from tables.	Q/A to review std form; Exposition of new terms; Guided discovery; Worked examples; Problem solving; Oral and written exercises.	Mathematical tables.	<i>KLB BK II Pgs 15-18</i>	

5	1	Common logs of numbers greater than 10.	By the end of the lesson, the learner should be able to: Read off common logs of numbers from tables.	Worked examples; Problem solving; Oral and written exercises.	Mathematical tables.	<i>KLB BK II Pgs 15 - 18</i>	
	2	Common logs of numbers less than 1.	By the end of the lesson, the learner should be able to: Read off common logs of decimal numbers from tables.	Worked examples; Problem solving; Oral and written exercises.	Mathematical tables.	<i>KLB BK II Pgs 18 - 20</i>	
	3	Multiplication of logs by a factor.	By the end of the lesson, the learner should be able to: Multiply logs by simple factors.	Worked examples; Problem solving; Oral and written exercises.	Mathematical tables.	<i>KLB BK II Pgs 18 - 20</i>	
	4	Division of logs by a factor.	By the end of the lesson, the learner should be able to: Divide logs by simple factors.	Worked examples; Problem solving; Oral and written exercises.	Mathematical tables.	<i>KLB BK II Pgs 18 - 20</i>	
	5	Multiplication of numbers using logs.	By the end of the lesson, the learner should be able to: Multiply numbers using logs.	Exposition & discovery; Worked examples; Supervised practice; Assignment.	Mathematical tables.	<i>KLB BK II Pgs 20 - 24</i>	
	6	Division using logs.	By the end of the lesson, the learner should be able to: Divide numbers using logs.	Exposition & discovery; Worked examples; Supervised practice. Written exercise.	Mathematical tables.	<i>KLB BK II Pgs 20 - 24</i>	

6	1	Multiplication and division using logs.	By the end of the lesson, the learner should be able to: Multiply and divide numbers using logs.	Supervised practice. Written exercise; Problem solving.	Mathematical tables.	<i>KLB BK II</i> <i>Pgs 20 - 24</i>	
	2	Logs and powers.	By the end of the lesson, the learner should be able to: Use logs to evaluate numbers with powers.	Guided discovery; Worked examples; Supervised practice. Written exercise.	Mathematical tables.	<i>KLB BK II</i> <i>Pgs 23 - 24</i>	
	3	Logs and roots.	By the end of the lesson, the learner should be able to: Use logs to evaluate roots of numbers.	Worked examples; Written exercise; Problem solving; Exercise review.	Mathematical tables.	<i>KLB BK II</i> <i>Pgs 23 - 24</i>	
	4	Miscellaneous operations using logs.	By the end of the lesson, the learner should be able to: Use logs to work out large expressions.	Worked examples. Group activities. Exercise review.	Past exam papers. Mathematical tables.	<i>KLB BK II</i> <i>Pgs 23 - 24</i>	
	5	GRADIENTS AND EQUATIONS OF LINES Positive gradient. <i>(given two coordinates)</i>	By the end of the lesson, the learner should be able to: Find gradient of a line given two coordinates.	Q/A to review co-ordinates; Exposition; Discover +ve gradient.	Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 27 - 34</i>	

	6	Negative gradient. <i>(given two coordinates)</i>	By the end of the lesson, the learner should be able to: Find gradient of a line given two coordinates. Differentiate between a +ve and -ve gradient.	Q/A to review co-ordinates; Exposition; Discover -ve gradient.	Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 27 - 34</i>	
7	1	Gradient of a line. <i>(given equation of a line)</i>	By the end of the lesson, the learner should be able to: Find gradient of a line given equation of the line.	Oral and written exercises.	Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 27 - 34</i>	
	2	Equation of a line. <i>(given two points)</i>	By the end of the lesson, the learner should be able to: Form equation of a line given two points.	Guided discovery; Supervised practice; Exercises.	Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 35 - 36</i>	
	3	Equation of a line. <i>(given one point and gradient)</i>	By the end of the lesson, the learner should be able to: Form equation of a line given one point and gradient.	Guided discovery; Supervised practice; Exercises.	Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 34 - 37</i>	
	4	Equation of a line. <i>(in the form</i> $y = mx + c$ <i>)</i> Equation of a line. <i>(in other forms)</i>	By the end of the lesson, the learner should be able to: Form equation of a line given two points.	Guided discovery; Supervised practice; Exercises.	Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 34 - 37</i>	
	5,6	C.A.T. & MID-TERM BREAK					

8	1	Graph of a line.	By the end of the lesson, the learner should be able to: Draw a graph of a straight line.	Drawing graphs; Interpreting the graphs; Supervised practice; Exercises.	Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 39 - 45</i>	
	2	Parallel lines.	By the end of the lesson, the learner should be able to: Relate gradient to parallel lines.	Guided discovery; Supervised practice; Mixed exercises; Exercise review.	Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 39 - 45</i>	
	3	Perpendicular lines.	By the end of the lesson, the learner should be able to: Relate gradients to perpendicular lines.	Guided discovery; Supervised practice; Mixed exercises; Exercise review.	Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 39 - 45</i>	
	4	REFLECTION AND CONGRUENCE Line of symmetry.	By the end of the lesson, the learner should be able to: Identify lines of symmetry.	Practical activities; Exposition and guided discovery.	Plane models.	<i>KLB BK II</i> <i>Pgs 46 - 48</i>	

	5	Reflection. <i>(of a point)</i>	By the end of the lesson, the learner should be able to: Determine co-ordinates of an image after reflection.	Practical activities; Supervised practice; Written exercise.	Tracing paper; Mirrors; Geoboard; Graph books.	<i>KLB BK II Pgs 48-60</i>	
	6	Reflection. <i>(of a line)</i>	By the end of the lesson, the learner should be able to: Determine co-ordinates of an image of a line after reflection.	Practical activities; Supervised practice; Written exercise.	Tracing paper; Mirrors; Geoboard; Graph books.	<i>KLB BK II Pgs 48-60</i>	

9	1	Reflection. <i>(of a plane figure)</i>	By the end of the lesson, the learner should be able to: Determine co-ordinates of an image figure after reflection.	Practical activities; Supervised practice; Written exercise.	Tracing paper; Mirrors; Geoboard; Graph books.	<i>KLB BK II Pgs 48-60</i>	
	2	Locating mirror line.	By the end of the lesson, the learner should be able to: Locate mirror line given co-ordinates of object and image.	Practical activities; Geometrical constructions; Supervised practice; Written exercise.	Tracing paper; Mirrors; Geoboard; Graph books.	<i>KLB BK II Pgs 50-60</i>	
	3	Geometrical deductions from reflection.	By the end of the lesson, the learner should be able to: Make geometrical deductions from reflection of figures.	Geometrical constructions; Making inferences.	Tracing paper; Mirrors; Geoboard; Graph books.	<i>KLB BK II Pgs 50-60</i>	

	4	Congruence.	By the end of the lesson, the learner should be able to: Identify types of congruence.	Practical activities; Geometrical constructions; Supervised practice; Written exercise.	Tracing paper; Mirrors; Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 61 - 63</i>	
	5	Congruent triangles.	By the end of the lesson, the learner should be able to: State characteristics of congruent triangles.	Practical activities; Geometrical constructions; Supervised practice; Written exercise.	Tracing paper; Mirrors; Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 63 - 70</i>	
	6	ROTATION Centre and angle of rotation.	By the end of the lesson, the learner should be able to: Identify centre and angle of rotation.	Practical activities; Guided discovery; Oral exercise.	Geoboard; Graph books; Manilla offcuts.	<i>KLB BK II</i> <i>Pgs 71 - 75</i>	

10	1	Rotation in x-y plane. (+ ve angle)	By the end of the lesson, the learner should be able to: Rotate a figure thro' a given + ve angle.	Practical activities; Oral and written exercises.	Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 75 - 78</i>	
	2	Rotation in x-y plane. (- ve angle)	By the end of the lesson, the learner should be able to: Rotate a figure thro' a given - ve angle.	Practical activities; Oral and written exercises.	Geoboard; Graph books.	<i>KLB BK II</i> <i>Pgs 75 - 78</i>	

	3	Order of rotational symmetry. <i>(Point symmetry)</i>	By the end of the lesson, the learner should be able to: Determine the order of rotational symmetry of a figure.	Practical activities; Oral and written exercises.	Geoboard; Graph books; Manilla offcuts.	<i>KLB BK II</i> <i>Pgs 78-84</i>	
	4	Order of rotational symmetry. <i>(Axis symmetry)</i>	By the end of the lesson, the learner should be able to: Determine the order of rotational symmetry of a figure.	Practical activities; Oral and written exercises.	Geoboard; Graph books; Manilla offcuts; Reaia..	<i>KLB BK II</i> <i>Pgs 78 - 84</i>	
	5	Rotation and congruency.	By the end of the lesson, the learner should be able to: Relate congruency and rotation.	Guided discovery through practical activities.	Geoboard; Graph books; Manilla offcuts; Reaia..	<i>KLB BK II</i> <i>Pgs 84-86</i>	
	6	SIMILARITY AND ENLARGEMENT Similarity.	By the end of the lesson, the learner should be able to: Identify similar figures.	Measure and record lengths of sides of figures; Guided discovery for similarity.	Geoboard; Graph books; Manilla offcuts; Geometrical sets.	<i>KLB BK II</i> <i>Pgs 87 -88</i>	

11	1	Similar figures.	By the end of the lesson, the learner should be able to: Solve problems involving similar figures.	Problem solving; Exercise review.	Similar planes figures. Manilla offcuts; Tracing papers.	<i>KLB BK II</i> <i>Pgs 88 - 96</i>	
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	2	Centre of enlargement.	By the end of the lesson, the learner should be able to: Locate c.o.e. given the object and image.	Geometrical construction; Discussion; Exercise; Exercise review.	Similar planes figures. Manilla offcuts; Tracing papers.	<i>KLB BK II</i> <i>Pgs 100- 104</i>	
	3	Linear scale factor of an enlargement. <i>(greater than 1)</i>	By the end of the lesson, the learner should be able to: Obtain l.s.f. of enlargement.	Measure and record lengths of sides of figures and their images; Exposition; Simple problems.	Geometrical sets; Manilla offcuts; Tracing paper.	<i>KLB BK II</i> <i>Pgs 97 - 100</i>	
	4	Linear scale factor of an enlargement. <i>(less than 1)</i>	By the end of the lesson, the learner should be able to: Obtain l.s.f. of enlargement.	Measure and record lengths of sides of figures and their images; Simple problems.	Geometrical sets; Manilla offcuts; Tracing paper.	<i>KLB BK II</i> <i>Pgs 97 - 100</i>	
	5	Negative l.s.f.	By the end of the lesson, the learner should be able to: Differentiate between +ve and -ve l.s.f. Deduce effect of of -ve l.s.f.	Geometrical construction; Making deductions; Written exercise.	Geometrical sets.	<i>KLB BK II</i> <i>Pgs 105 -6</i>	
	6	Negative fractional l.s.f.	By the end of the lesson, the learner should be able to: Deduce effect of -ve fractional l.s.f.	Geometrical construction; Making deductions; Written exercise.	Geometrical sets.	<i>KLB BK II</i> <i>Pgs 105 -6</i>	
12, 13	<i>END OF TERM ONE EXAMINATIONS</i>						

SCHEME OF WORK		FORM TWO	MATHEMATICS	TERM TWO YEAR 2019			
1	1	SIMILARITY AND ENLARGEMENT Area scale factor.	By the end of the lesson, the learner should be able to: Relate l.s.f. to a.s.f.	Q/A to relate length and area; Worked examples; Supervised practice; Written exercise.		<i>KLB BK II Pgs 106-9, 111- 2</i>	
	2	Volume scale factor.	By the end of the lesson, the learner should be able to: Relate l.s.f. to v.s.f.	Q/A to relate length and volume; Q/A to review roots , squares and roots. Worked examples; Supervised practice; Written exercise; Mixed exercise review.	Cubes.	<i>KLB BK II Pgs 109 -</i>	
	3	THE PYTHAGORAS' THEOREM	By the end of the lesson, the learner should be able to: Apply the theorem in problem solving.	Probing questions; Proof of the theorem; Problem solving.	Cubes.	<i>KLB BK II Pgs 119-122</i>	
	4	THE PYTHAGORAS' THEOREM	By the end of the lesson, the learner should be able to: Apply the theorem in further problem solving.	Further problem solving.		<i>KLB BK II Pgs 119-122</i>	
	5	TRIGONOMETRIC RATIOS Tangent of an acute angle.	By the end of the lesson, the learner should be able to: Define tangent of an angle. Find tangent of an angle.	Guided practical activity; Exposition of $\tan \theta$; Worked examples; Written exercise.	Mathematical tables.	<i>KLB BK II Pgs 123 - 6</i>	

	6	Tangent of an acute angle by scale drawing.	By the end of the lesson, the learner should be able to: Find tangent of an angle by scale drawing.	Guided practical activity; Scale drawing.	Mathematical tables; Geometrical set.	<i>KLB BK II</i> <i>Pgs 123 - 6</i>	
2	1	Table of tangents of angles (deg)	By the end of the lesson, the learner should be able to: Read off tangent of an angle from tables.	Guided discovery; Worked examples; Written exercise.	Mathematical tables.	<i>KLB BK II</i> <i>Pgs 126 - 132</i>	
	2	Table of tangents of angles (<i>deg with decimals</i>)	By the end of the lesson, the learner should be able to: Read off tangent of an angle from tables.	Guided discovery; Worked examples; Written exercise; Exercise review.	Mathematical tables.	<i>KLB BK II</i> <i>Pgs 123 - 6</i>	
	3	Table of tangents of angles (<i>deg and min</i>)	By the end of the lesson, the learner should be able to: Read off tangent of an angle from tables.	Guided discovery; Worked examples; Written exercise; Exercise review.	Mathematical tables.	<i>KLB BK II</i> <i>Pgs 123 - 6</i>	
	4	Sine of an angle.	By the end of the lesson, the learner should be able to: Define sine of an angle. Find sine of an angle.	Guided practical activity; Exposition of $\tan \theta$; Worked examples; Written exercise.	Mathematical tables.	<i>KLB BK II</i> <i>Pgs 132-4</i>	

	5	Sine of an angle by scale drawing.	By the end of the lesson, the learner should be able to: Determine sine of an angle by scale drawing.	Scale drawing; Exercises.	Geometrical sets.	<i>KLB BK II Pgs 134-8</i>	
	6	Table of sines of angles.	By the end of the lesson, the learner should be able to: Read off sine of an angle from tables.	Guided discovery; Worked examples; Written exercise; Exercise review.	Mathematical tables.	<i>KLB BK II Pgs 138- 144</i>	

3	1	Cosine of an angle.	By the end of the lesson, the learner should be able to: Define cosine of an angle. Find cosine of an angle.	Guided practical activity; Exposition of $\tan \theta$; Worked examples; Written exercise.	Mathematical tables.	<i>KLB BK II Pgs 132-4</i>	
	2	Cosine of an angle by scale drawing.	By the end of the lesson, the learner should be able to: Determine cosine of an angle by scale drawing.	Scale drawing; Exercises.	Geometrical sets.	<i>KLB BK II Pgs 134-8</i>	
	3	Table of cosines of angles.	By the end of the lesson, the learner should be able to: Read off sine of an angle from tables.	Guided discovery; Worked examples; Written exercise; Miscellaneous exercise.	Mathematical tables.	<i>KLB BK II Pgs 138- 144</i>	

	4	Sines and cosines of complementary angles.	By the end of the lesson, the learner should be able to: Relate sines and cosines of complementary angles.	Guided discovery; Worked examples; Exercises.	Mathematical tables.	<i>KLB BK II</i> <i>Pgs 145 - 8</i>	
	5	Sines, cosines and tangents of special angles.	By the end of the lesson, the learner should be able to: Find sines, cosines and tangents of special angles.	Guided discovery; Worked examples; Exercises.		<i>KLB BK II</i> <i>Pgs 147 - 8</i>	
	6	Sines, cosines and tangents of special complementary angles.	By the end of the lesson, the learner should be able to: Find sines, cosines and tangents of special complementary angles.	Guided discovery; Worked examples; Exercises.		<i>KLB BK II</i> <i>Pgs 147 - 8</i>	

4	1	Logs of sines, cosines and tangents.	By the end of the lesson, the learner should be able to: Read off logs of sines, cosines and tangents of angles.	Q/A to review logs; Worked examples; Exercises.	Mathematical tables.	<i>KLB BK II</i> <i>Pg 148</i>	
	2	Logs of sines, cosines and tangents. (<i>problem solving</i>)	By the end of the lesson, the learner should be able to: Use logs of sines cosines and tangents of angles in problem solving..	Q/A to review logs; Worked examples; Exercises.	Mathematical tables.	<i>KLB BK II</i> <i>Pgs 148 - 152</i>	

	3	Logs of sines, cosines and tangents. <i>(further problem solving)</i>	By the end of the lesson, the learner should be able to: Use logs of sines, cosines and tangents of angles in further problem solving.	Q/A to review logs; Worked examples; Exercises.	Mathematical tables.	<i>KLB BK II Pgs 148 - 152</i>	
	4	AREA OF A TRIANGLE <i>(Right angled & isosceles)</i>	By the end of the lesson, the learner should be able to: Derive and use the formula $A = \frac{1}{2} a b \sin C$.	Q/A: - Review $A = \frac{1}{2} b h$; Derive $A = \frac{1}{2} a b \sin C$ Worked examples, Exercise. Problem solving.		<i>KLB BK II Pgs 155 - 6</i>	
	5	AREA OF A TRIANGLE <i>(Scalene)</i>	By the end of the lesson, the learner should be able to: Derive and use the formula $A = \frac{1}{2} a b \sin C$.	Worked examples; Exercise; Problem solving.		<i>KLB BK II Pgs 155 - 6</i>	
	6	AREA OF A TRIANGLE Hero's formula.	Apply Hero's formula in problem solving.	Q/A to identify a scalene triangle. Expository approach – applying the formula. Worked examples. Exercise.		<i>KLB BK II Pgs 157 - 9</i>	
5	1	AREA OF QUADRILATERALS & POLYGONS Parallelogram and Rhombus.	Find area of a parallelogram and rhombus.	Q/A: Identifying a parallelogram, rhombus; Worked examples.		<i>KLB BK II Pgs 160 - 2</i>	

2	Kite and trapezium.	Find the area of a kite and a trapezium.	Q/A; Worked examples; Written exercise.		<i>KLB BK II</i> <i>Pgs 162-4</i>	
3	Polygons.	Find area of various polygons.	Worked examples. Exercise.	Charts- polygons.	<i>KLB BK II</i> <i>Pgs 157 - 9</i>	
4	AREA OF A CIRCLE Area of a sector.	Identify major and minor sectors of circles. Find the area of a sector.	Q/A: Arc of a semi-circle, quarter-circle, etc. Worked examples, Exercise.		<i>KLB BK II</i> <i>Pg 167 - 8.</i>	
5	Angle subtended at circle centre by an arc.	Find angle subtended at circle centre by an arc.	Review area of a sector; Worked examples. Exercise.			
6	Area of an annulus.	Define an annulus. Find area of an annulus.	Problem solving- with emphasis on factoring out common terms.	Illustrative chart – annulus.	<i>KLB BK II</i> <i>Pg 167 - 8.</i>	

6	1	Area of a segment.	Find the difference in area between that of a sector and a triangle.	Guided discovery; Worked examples, Exercise.		<i>KLB BK II Pg 169 - 172.</i>	
	2	Intersecting Circles.	Find area of common region between two circles.	Worked examples, Exercise. Problem solving.		<i>KLB BK II Pgs 173 -6</i>	
	3	Intersecting Circles.	Solve further problems related to intersecting circles.	Worked examples, Exercise. Problem solving.		<i>KLB BK II Pgs 173 -6</i>	
	4	SURFACE AREA OF COMMON SOLIDS Prism.	Find the surface area of a prism.	Q/A: Review surface area of a cylinder, prism. Worked examples, Exercise.	Model prisms.	<i>KLB BK II Pgs 177 - 8.</i>	
	5	Pyramid.	Find the surface area of a pyramid.	Worked examples; Supervised practice; Exercise.	Model pyramids.	<i>KLB BK II Pgs 178-180</i>	
	6	Cone.	Deduce the formula $\text{Area} = \pi r^2 + \pi r l$.	Construction: Making a cone from a sector. Deduce $\text{Area} = \pi r^2 + \pi r l$.	Model cones.	<i>KLB BK II Pgs 180- 1</i>	

7	1	Cone.	Find the surface area of a cone.	Examples. Further problem solving.	Model cones.	<i>KLB BK II Pgs 180- 1</i>	
	2	Frustum of a cone.	Define a frustum. Find surface area of a frustum of a cone.	Q/A to review similar figures. Worked examples. Exercises.	Model conical frustum.	<i>KLB BK II Pgs 181 - 3</i>	
	3	Frustum of a prism.	Define a frustum. Find surface area of a frustum of a prism.	Q/A to review similar figures. Worked examples. Exercises.	Model prismatic frustum.	<i>KLB BK II Pgs 181 - 3</i>	
	4	Sphere & Hemisphere.	Find surface area of a sphere/ hemisphere.	Probing questions leading to discoveries; Examples. Exercise.	Spheres / globe.	<i>KLB BK II Pgs 183 - 5</i>	
	5,6	C.A.T.& MID-TERM BREAK					

8	1	VOLUME OF SOLIDS. Prism.	Find volume of prism.	Q/A: Identifying cross-section of a prism. Worked examples. Exercise.	Prisms.	<i>KLB BK II</i> <i>Pgs 186 -9</i>	
	2	Pyramid.	Find volume of a pyramid.	Activity: Forming a cube using three pyramids. Q/A: Volume of a cube, hence deduce formula for volume of a pyramid. Examples and exercise.	Manila papers, razor blades.	<i>KLB BK II</i> <i>Pgs 189 -191</i>	
	3	Cone.	Find volume of a cone.	Compare a cone with a pyramid; Work out examples, Supervised exercise.	Cones.	<i>KLB BK II</i> <i>Pgs 191 - 2</i>	
	4	Frustum of a cone.	Find volume of a frustum of a cone.	Review L.S.F. and V.S.F. and similar figures. Worked examples & Exercise.	Model frustums.	<i>KLB BK II</i> <i>Pgs 192 -3</i>	

	5	Frustum of a pyramid.	Find volume of a frustum of a pyramid.	Review L.S.F. and V.S.F. and similar figures. Worked examples & Exercise.	Model frustums.	<i>KLB BK II</i> <i>Pgs 192 -3</i>	
	6	Sphere and hemi-sphere.	Find volume of a sphere, hemi-sphere, etc.	Q/A: Surface area of a sphere, hemi-sphere. Derive: $V = \frac{4}{3} \pi r^3$ Examples; Exercise; Problem solving.		<i>KLB BK II</i> <i>Pgs 195 - 6</i>	
9	1	QUADRATIC EXPRESSIONS EQUATIONS Expansion. (Whole numbers)	Expand algebraic expressions that form quadratic expressions.	Worked examples; Exercise		<i>KLB BK II</i> <i>Pgs 201 - 5</i>	
	2	Expansion. (With fractions)	Expand fractional algebraic expressions that form Quadratic expressions.	Q/A: Expanding simple algebraic expressions. Worked examples, Exercise.		<i>KLB BK II</i> <i>Pgs 201 - 5</i>	
	3	Quadratic Identity (a + b) ²	Apply the quadratic identity (a + b) ²	Guided discovery; Exposition.		<i>KLB BK II</i> <i>Pg 204.</i>	
	4	Quadratic Identity (a - b) ²	Apply the quadratic identity (a - b) ²	Guided discovery; Exposition.		<i>KLB BK II</i> <i>Pg 204.</i>	

	5	Quadratic Identity (a + b) (a - b)	Apply the quadratic identity (a + b) (a - b)				
	6	Factorisation.	Factorise quadratic expressions where coefficient of x^2 is 1.	Guided discovery; Worked examples; Exercise.		<i>KLB BK II Pgs 205-6</i>	

10	1	Factorisation.	Factorise quadratic expressions where coefficient of x^2 is greater than 1.	Guided discovery; Worked examples; Exercise.		<i>KLB BK II Pgs 206 -8</i>	
	2	Quadratic equations. (Coefficients whole nos.)	Solve quadratic equations.	Worked examples; Exercise and review.		<i>KLB BK II Pgs 208 – 210.</i>	
	3	Quadratic equations. (Coefficients fractions)	Solve quadratic equations.	Worked examples; Exercise and review.		<i>KLB BK II Pgs 208 – 210.</i>	

	4	Forming quadratic equations from given + ve roots.	Form quadratic equations from known roots.	Work out examples; Exercise.		<i>KLB BK II Pgs 210-2</i>	
	5	Forming quadratic equations from given - ve roots.	Form quadratic equations from known roots.	Work out examples Exercise.		<i>KLB BK II Pgs 210-2</i>	
	6	Forming quadratic equations from given both + ve and - ve roots.	Form quadratic equations from known roots.	Work out examples; Exercise.		<i>KLB BK II Pgs 210-2</i>	

11	1	Forming quadratic equations from given situations.	Form quadratic equations given situations.	Q/A: Express numbers, measurements algebraically; Problem solving; Exercise review.		<i>KLB BK II Pgs 208 – 210.</i>	
	2	Forming quadratic equations from real life situations.	Form further quadratic equations given situations.	Problem solving; Exercise review.		<i>KLB BK II Pgs 208 – 210.</i>	

	3	INEQUALITIES Representation of inequalities.	Define an inequality. Use inequality symbols.	Q/A to identify symbols; Oral exercise; Written exercise.	Geo-board. Graph papers.	<i>KLB BK II</i> <i>Pgs 213-5</i>		
	4	Inequalities on a number line.	Illustrate inequalities on a number line.	Examples of inequalities on a number line. Oral exercise.				
	5	Solving simple inequalities.	Solve simple inequalities.	Worked examples; Exercise and review.	Geo-board. Graph papers.	<i>KLB BK II</i> <i>Pgs 215-6</i>		
	6	Multiplication of inequalities with a negative number.	Multiply / divide an inequality by a -ve no.	Worked examples; Exercise and review.		<i>KLB BK II</i> <i>Pgs 216-7</i>		
12, 13	<i>END OF TERM TWO EXAMINATIONS</i>							

SCHEME OF WORK FORM TWO MATHEMATICS TERM THREE YEAR 2019

1	1	INEQUALITIES Compound inequalities.	The learner should be able to: Illustrate compound	Give examples of compound statements and illustrate them on a number line.	Geo-board. Graph papers.	<i>KLB BK II</i> <i>Pgs 217-8</i>	
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		inequalities on a number line.	Oral exercise; Written exercise.			
2	Simultaneous inequalities.	Solve simultaneous inequalities and determine the integral values in the required region.	Q/A: Solve each inequality at a time, hence find the common solution / integral values. Supervised practice. Exercise.	Geo-board. Graph papers.	<i>KLB BK II</i> <i>Pgs 217-8</i>	
3	Graphs of simple inequalities.	Represent inequalities graphically.	Q/A: Review equations of lines and their graphical representation. Examples & Exercise.	Illustrative charts.	<i>KLB BK II</i> <i>Pgs 219-223</i>	
4	Inequality from a given graph.	Find the inequality represented by a graph.	Worked examples; Exercise and review.		<i>KLB BK II</i> <i>Pgs 219-223</i>	
5	Graphs of compound inequalities.	Represent compound inequality statements graphically.	Review simple statements, represent them graphically and obtain the required region; Worked examples; Written exercise; Exercise review.	Geo-board Graph papers.	<i>KLB BK II</i> <i>Pgs 224-228</i>	
6	Inequality statement from graphs.	Determine the statements that are represented graphically.	Worked examples. Supervised practice. Exercise. Problem solving	Graph papers	<i>KLB BK II</i> <i>Pgs 224-228</i>	

2	1	LINEAR MOTION Parameters of motion.	Define speed, velocity, distance, displacement, and acceleration. Calculate parameters of motion.	Q/A: definitions of terms. Deduce formulae of definitions. Worked examples. Exercise.	Geo-board Graph papers.	<i>KLB BK II</i> <i>Pgs 228-230</i>	
	2	Velocity and acceleration.	Calculate velocity and acceleration of motions.	Probing questions; Worked examples; Exercise.	Graph papers.	<i>KLB BK II</i> <i>Pgs 230-1</i>	
	3	Distance time graphs.	Plot and interpret distance time graphs.	Probing questions; Worked examples; Exercise.	Graph papers.	<i>KLB BK II</i> <i>Pgs 224-228</i>	
	4	Velocity time graphs.	Plot and interpret velocity time graphs. Make inferences from graphs.	Worked examples. Oral exercise; Written exercise; Exercise review.	Geo-board. Graph papers.	<i>KLB BK II</i> <i>Pgs 224-228</i>	
	5	Approaching bodies.	Solve problems on relative speeds of approaching bodies	Worked examples. Exercise		<i>KLB BK II</i> <i>Pgs 238-240</i>	
	6	Overtaking bodies.	Solve problems on relative speeds of overtaking bodies.	Worked examples. Oral exercise; Written exercise; Exercise review.		<i>KLB BK II</i> <i>Pgs 238-240</i>	

3	1	Bodies moving in opposite directions.	Solve problems on relative speeds of bodies moving in opposite directions.	Worked examples. Oral exercise; Written exercise; Exercise review.		<i>KLB BK II Pgs 238-240</i>	
	2	STATISTICS Frequency distribution table.	Define statistics. Explain importance of statistics. Draw a frequency distribution table.	Q/A: Given examples of data that need to be organised to give information. Discuss importance of statistics. Activity; Shoe size - no of students table. Tabulation of results.	Statistical data from real life situations, e.g. HIV / AIDS figures.	<i>KLB BK II Pgs 241-2</i>	
	3	Mean.	Define statistical mean of a set of data. Find mean of a set of data.	Worked examples; Supervised practice. Exercise.		<i>KLB BK II Pgs 243-4</i>	
	4	Mode and median.	Define mode and median of a set of data. Find median of a given set of data.	Arranging data in ascending order and finding the median. Exercise.		<i>KLB BK II Pgs 244-5</i>	

	5	Median.	Find median of a given set of data.	Arranging data in ascending order and finding the median. Exercise.		<i>KLB BK II Pgs 244-7</i>	
	6	Classes of data.	Define class and class range. Group data into reasonable classes.	Group activity - Involve students in identifying suitable class range, and grouping the data.		<i>KLB BK II Pgs 244-7</i>	
4	1	Mean of grouped data.	Find mean of grouped data.	Examples; Problem solving.		<i>KLB BK II Pgs 247-252</i>	
	2	Median of grouped data.	Find median of grouped data.	Worked examples. Exercise.		<i>KLB BK II Pgs 247-252</i>	
	3	Problems on grouped data.	Solve problems on grouped data.	Problem solving.		<i>KLB BK II Pgs 247-252</i>	
	4	Bar graphs.	Represent information in form of bar graphs.	Examples; Written exercise and review.	Charts.	<i>KLB BK II Pgs 252 -3</i>	
	5	Interpreting bar graphs.	Interpret information represented with bar graphs.	Examples; Written exercise and review.			
	6	Pictograms.	Deduce information represented with pictures. Represent information in a pictogram.	Oral exercise.	Charts.	<i>KLB BK II Pgs 253-</i>	
5	1	Pie-charts.	Represent comparative information in form of pie charts.	Q/A: Supervised exercise. Written exercise.	Pie-charts.	<i>KLB BK II Pgs 254-5</i>	
	2	Interpreting pie-charts.	Deduce information represented with	Q/A: Supervised exercise. Written exercise.	Pie-charts.	<i>KLB BK II Pgs 254-5</i>	

	3	Line graphs.	Draw line graphs.	Guided activity; Supervised exercise.			
	4	Line graphs.	Interpret line graphs.	Discussion; Assignment.	Graph papers.	<i>KLB BK II Pgs 255-6</i>	
	5	Histograms.	Represent information in a histogram.	Q/A -Identify class boundaries of the entries. Draw the histogram of given data.	Graph papers.	<i>KLB BK II Pgs 256-8</i>	
	6	Histograms.	Interpret histograms.	Discover effect of doubling the class size on the frequency. Exercise.	Graph papers.	<i>KLB BK II Pgs 258-9</i>	
6	1	Frequency polygons.	Interpret frequency polygons.	Identify mid points of classes. Join the tops of the bars of a histogram; Written exercise.	Graph papers.	<i>KLB BK II Pgs 258-9</i>	
	2	ANGLE PROPERTIES OF A CIRCLE Parts of a circle. Angle subtended by diameter on the circumference.	Identify an arc, chord, segments of a circle. Deduce angle subtended by diameter on the circumference.	Q/A and discussion; Measure angle subtended by diameter on the circumference.	Geometrical set.	<i>KLB BK II Pgs 264-6</i>	
	3	Angle subtended by a chord on the circumference and at circle centre.	Deduce relation between angle subtended by a chord on the circumference and at circle centre.	Geometrical construction; Discuss inferences. Written exercise.	Geometrical set.	<i>KLB BK II Pgs 266-8</i>	

	4	Angles in the same segment.	Deduce that angles in the same segment subtended by same chord are equal.	Geometrical construction; Discuss inferences. Written exercise.	Geometrical set.	<i>KLB BK II</i> <i>Pgs 273-7</i>	
	5	Angles in different segments.	Deduce properties for angles in different segments subtended by same.	Geometrical construction; Discuss inferences. Written exercise.	Geometrical set.	<i>KLB BK II</i> <i>Pgs 273-7</i>	
	6	Cyclic quadrilaterals.	Infer angle properties of cyclic quadrilaterals.	Geometrical construction; Make inferences. Written exercise. Exercise review.	Geometrical set.	<i>KLB BK II</i> <i>Pgs 278-9</i>	

7	1	Further cyclic quadrilaterals.	Apply angle properties of cyclic quadrilaterals in problem solving.	Worked examples; Written exercises; Exercise review.	Geometrical set.	<i>KLB BK II</i> <i>Pgs 279-283</i>	
	2	VECTORS Definition of a vector. Definition of a scalar.	Define a vector. Define a scalar. Identify vector notation.	Discussion: quantities that have both size and direction. Exposition: vector definition and notation.		<i>KLB BK II</i> <i>Pgs 284-5</i>	
	3	Equivalent vectors.	Define magnitude of a vector. Identify equivalent vectors. Represent equivalent vectors diagrammatically.	From a wire cube students identify equivalent vectors and those that are not	Wire cube.	<i>KLB BK II</i> <i>Pgs 285-6</i>	

				equivalent. Oral exercise.			
	4	Addition of vectors.	Define displacement Identify initial and final points. Add two vectors. Add two vectors with directions reversed.	Worked examples; Oral exercise.	Graph papers Square board. Geometrical instruments.	<i>KLB BK II</i> <i>Pgs 286-9</i>	
	5,6	C.A.T.& MID-TERM BREAK					

8	1	Product of positive scalar and a vector.	Obtain product of a vector and a positive scalar.	Illustrative examples; Oral exercise	Graph papers Square board. Geometrical instruments.	<i>KLB BK II</i> <i>Pgs 286-9</i>	
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	2	Negative scalar multiplication of a vector.	Define a zero vector. Multiply a vector by a negative scalar.	Q/A: Review equivalent vectors. Illustrative examples. Oral exercise. Examples and exercise.	Graph papers Square board. Geometrical instruments.	<i>KLB BK II</i> <i>Pgs 289-290</i>	
	3	Fractional scalars.	Multiply a vector by a positive or negative fraction.	Review multiplication of a vector by a positive scalar. Deduce magnitude and direction of the new vector. Work out examples.	Illustrative chart	<i>KLB BK II</i> <i>Pg 290</i> <i>Pg 291</i>	
	4	Column vectors.	Represent vectors as column vectors.	Examples. Exercise	Square board Square papers.	<i>KLB BK II</i> <i>Pgs 290-1</i>	
	5	Sum of two column vectors.	Find the vector sum of two vectors in column form.	Q/A: review displacement; Discuss vertical and horizontal displacement of a vector; leading to definition of a column vector; Oral exercise; Written exercise.	Square grid/ illustrative chart.	<i>KLB BK II</i> <i>Pgs 296-8</i>	
	6	Sum of several column vectors.	Find vector sum of several vectors.	Add up vectors diagrammatically. Examples. Exercise.		<i>KLB BK II</i> <i>Pgs 296-8</i>	
9	1	The position vector.	Define a position vector. Adding two position vectors.	Problem solving.		<i>KLB BK II</i> <i>Pgs 296-8</i>	

2	Adding position vectors.	Add several position vectors.	Q/A: Review vector addition. Exposition: Definition of position vector. Examples; Supervised practice.	Square board Square papers.	<i>KLB BK II</i> <i>Pgs 298-9</i>	
3	Vector magnitude.	Find the magnitude of a vector with positive displacement.	Problem solving; Exercise review.		<i>KLB BK II</i> <i>Pgs 299-301</i>	
4	Vector magnitude.	Find the magnitude of a vector with negative displacement.	Q/A: review horizontal and vertical displacement of a vector. Deduce magnitude of a vector. Examples, exercises.	Square board Squared papers	<i>KLB BK II</i> <i>Pgs 301-2</i>	
5	Midpoint of a vector.	Find the co-ordinates of midpoint of a given vector.	Examples, Written exercises; Exercise review.	Square board Squared papers.	<i>KLB BK II</i> <i>Pgs 301-2</i>	
6	Co-ordinates of points on a vector.	Find the co-ordinates of a point on a vector.	Examples and exercise. Exercise review.	Square board Squared papers.	<i>KLB BK II</i> <i>Pgs 302-3</i>	

10	1	Translation matrix, T.	Define a translation matrix. Identify translation matrices.	Guided discovery; Oral exercise.			
	2	Translation of a point.	Illustrate a translation of a vector. Obtain the image of a point under a translation vector T.	Q/A: dividing a vector in a given ratio Worked examples. Exercise.	Geo-board Graph papers	<i>KLB BK II</i> <i>Pgs 302-3</i>	
	3	Translation of a figure.	Obtain the image of a figure under a translation vector T.	Use a practical situation to introduce a translation. Worked examples. Exercise.	Geo-board Graph papers	<i>KLB BK II</i> <i>Pgs 304-6</i>	
	4	Translation	Obtain the object given the image and the translation matrix.	Worked examples. Exercise. Problem solving.	Geo-board Graph papers	<i>KLB BK II</i> <i>Pgs 304-6</i>	
	5,6	Problem solving on translations.	Solve problems involving translation matrices.				

11	<i>MIXED EXERCISES</i>	
12, 13	<i>END OF TERM THREE EXAMINATIONS</i>	