DOYEN PUBLISHERS

HIGH SCHOOL SCHEMES OF WORK

MATHEMATICS FORM 4

(Term 1, 2 & 3)

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MATHEMATICS FORM 4 SCHEMES OF WORK – TERM 1

WK	LSN	TOPIC/S-TOPIC	OBJECTIVES	L/ACTIVITIES	L/T AIDS	REFERENCE	REMARKS
		SCHOOL OPENING					
1	1	Matrices and Transformation Transformation on a Cartesian plane	**By the end of the lesson, the learner should be able to:-** Relate image and objects under a given transformation on the Cartesian plane	Drawing objects and their images on Cartesian plane Practice Ex 1.1 P5	Square boards Peg boards and strings Rubber band	- K.M, Advancing in Math F4 Pg 1-3 - KLB Pg 1-6 - Patel Pg 7 - Malkiat Pg 1	
	2	Matrices and Transformation Identification of transformation matrix	**By the end of the lesson, the learner should be able to:-** Determine the matrix of a transformation	Practice exercise KLB EX 1.2 and 1.3	Square boards Peg boards and strings Rubber band	- K.M, Advancing in Math F4 Pg 3-9 - KLB Pg 6-16 - Patel - Malkiat Pg 3	
	3&4	Matrices and Transformation Successive transformation	**By the end of the lesson, the learner should be able to:-** Perform successive transformation	Drawing objects and its successive images KLB Ex 1.4	Square boards Peg boards and strings Rubber band	- K.M, Advancing in Math F4 Pg 15-17 - KLB Pg 16-24 - Patel Pg 18 - Malkiat Pg 9	
	5	Matrices and Transformation Single matrix of transformation for successive transformation	**By the end of the lesson, the learner should be able to:-** Determine and identify a single matrix for successive transformation	Drawing objects and its successive images KLB Ex 1.4	Square boards Peg boards and strings Rubber band	- K.M, Advancing in Math F4 Pg 15-17 - KLB Pg 21 - Patel Pg 18 - Malkiat Pg 11	
	6	Matrices and Transformation Relate Identity Matrix and Transformation	**By the end of the lesson, the learner should be able to:-** Relate identity matrix and transformation	Practice exercise Ex 1.4 KLB BK 4	Calculators	- K.M, Advancing in Math F4 Pg 13-14 - KLB Pg 22-24 - Patel Pg 26 - Malkiat Pg 7	
	7	Matrices and Transformation Inverse of a matrix area scale factor and determinant of a matrix	**By the end of the lesson, the learner should be able to:-** Determine the inverse of a transformation	Practice exercise Ex 1.5 KLB BK 4	Calculators	- K.M, Advancing in Math F4 Pg 14-15 - KLB Pg 24-26 - Patel Pg 26 - Malkiat Pg 13	
2	1	Matrices and Transformation Area of scale factor and determinant of a matrix	**By the end of the lesson, the learner should be able to:-** Establish and use the relationship between area scale factor and determinant of a	Practice exercise Ex 1.5 KLB BK 4 pg 27	Boards and strings Peg boards and strings Rubber band Calculators	- K.M, Advancing in Math F4 Pg 17-19 - KLB Pg 26-27 - Patel Pg 27 - Malkiat Pg 16	

				matrix			
	2&3	Matrices and Transformation Shear and stretch	**By the end of the lesson, the learner should be able to:-** Determine shear and stretch	Drawing objects and images under shear and stretch. Ex 1.6	Square boards Peg boards and strings Rubber band Calculators	- K.M, Advancing in Math F4 Pg 10-13 - KLB Pg 28-34 - Patel Pg 29 - Malkiat Pg 19	
	3&4	Statistics Ogive	**By the end of the lesson, the learner should be able to:-** Use cumulative frequency tables to Draw the ogive	Drawing cumulative frequency curve (ogive) KLB Pg 4, Ex. 2.2	Square boards Graph papers	- K.M, Advancing in Math F4 Pg 28-29 - KLB Pg 51-52 - Patel Pg 47 - Malkiat Pg 42	
	5&6	Statistics Median	**By the end of the lesson, the learner should be able to:-** Estimate the median and quartiles by Calculations Ogive	Practice exercise KLB Pg 4, Ex. 2.2	Square boards Graph papers Calculators	- K.M, Advancing in Math F4 Pg 29-31 - KLB Pg 48 - Patel Pg 51 - Malkiat Pg 36	
	7	Statistics Quartile	**By the end of the lesson, the learner should be able to:-** Estimate median and quartiles by Calculations ogive	Practice exercise KLB Pg 4, Ex. 2.2	Square boards Graph papers Calculators	- K.M, Advancing in Math F4 Pg 29-31 - KLB Pg 46 - Patel Pg 55 - Malkiat Pg 44	
4	1&2	Statistics Range- inter quartile range	**By the end of the lesson, the learner should be able to:-** Define and calculate measure of dispersion-range, quartiles and inter-quartile range	Practice exercise KLB Pg 4, Ex. 2.2	Calculators	- K.M, Advancing in Math F4 Pg 32-33 - KLB BK 4 Pg - Patel Pg 48 - Malkiat Pg 44	
	3&4	Statistics Quartile deviation	**By the end of the lesson, the learner should be able to:-** Define and calculate measures of dispersion – quartile deviation	Practice exercise KLB Pg 4, Ex. 2.2	Calculators	- K.M, Advancing in Math F4 Pg 34-35 - KLB Bk4 Pg 57-59 - Patel Pg 48 - Malkiat Pg 62	
	5	Statistics Variance	**By the end of the lesson, the learner should be able to:-** Define and calculate measures of Dispersion, variance interpret measure of dispersion	Practice exercise KLB Pg 4, Ex. 2.2	Calculators	- K.M, Advancing in Math F4 Pg 34-35 - KLB Bk4 Pg 57-59 - Patel Pg 48 - Malkiat Pg 62	
	6&7	Statistics Standard deviation	**By the end of the lesson, the learner should be able to:-**			- K.M, Advancing in Math F4 Pg 34-39	

			- Define and calculate measures of dispersion, standard deviation - Interpret measures of dispersion	Ex. 2.3 Exams – CATS	Calculators	- KLB Bk4 Pg 60 - Patel Pg 64 - Malkiat Pg 48	
		TOPICAL EXAMS					
5	1&2	Loci Common types of Loci	**By the end of the lesson, the learner should be able to:-** Define locus	Practice exercise KLB Pg 4, Ex. 3.2	Geometrical patterns	- K.M, Advancing in Math F4 Pg 40-41 - KLB Bk4 Pg 68 - Patel Pg 72 - Malkiat Pg 64	
	3	Loci Perpendicular bisector Loci	**By the end of the lesson, the learner should be able to:-** Describe common types of loci	Practice exercise KLB Pg 4, Ex. 3.2	Geometrical patterns	- K.M, Advancing in Math F4 Pg 40 - KLB Bk4 Pg 60 - Patel Pg 74 - Malkiat Pg 69	
	4&5	Loci Loci of a point at a given distance from a fixed point and fixed line	**By the end of the lesson, the learner should be able to:-** Describe common types of loci	Practice exercise KLB Pg 4, Ex. 3.2	Geometrical patterns	- K.M, Advancing in Math F4 Pg 40 - KLB Bk4 Pg 70-71 - Patel Pg 74 - Malkiat Pg 69	
	6&7	Loci Angle bisector Loci	**By the end of the lesson, the learner should be able to:-** Describe common types of loci	Practice exercise KLB Pg 4, Ex. 3.2	Geometrical patterns	- K.M, Advancing in Math F4 Pg 41 - KLB Bk4 Pg 71-72 - Patel Pg 75 - Malkiat Pg 70	
6	1-2	Loci Constant angle loci	**By the end of the lesson, the learner should be able to:-** Describe common types of loci	Practice exercise KLB Pg 4, Ex. 3.2	Geometrical patterns	- K.M, Advancing in Math F4 Pg 42-43 - KLB Bk4 Pg 72-74 - Patel Pg 76 - Malkiat Pg 72	
	3	Loci Construction:- loci of the equalities	**By the end of the lesson, the learner should be able to:-** Construct loci	Involving inequalities	Geometrical instruments	- K.M, Advancing in Math F4 Pg 49 - Patel Pg 83 - Malkiat Pg 89	
	4&5	Loci Loci involving chords	**By the end of the lesson, the learner should be able to:-** Construct loci involving chords	Practice exercise KLB Pg 4, Ex. 3.5	Geometrical instruments	- K.M, Advancing in Math F4 Pg 45-47 - KLB Bk4 Pg 84	

						- Patel Pg 86 - Malkiat Pg 85	
	6&7	Loci Loci under given conditions including intersecting chords	**By the end of the lesson, the learner should be able to:-** Construct loci involving intersecting Loci and under given conditions	Practice exercise KLB Pg 4, Ex. 3.4	Geometrical instruments	- K.M, Advancing in Math F4 Pg 47-49 - Patel Pg 83 - Malkiat Pg 77	
		TOPICAL EXAMS					
7	1	Trigonometry Trigonometric ratios	**By the end of the lesson, the learner should be able to:-** Recall and define trigonometric ratios	Practice exercise KLB Pg 4, Ex. 4.1 Advancing BK 4, Ex. 4.1	Chart illustrating Trigonometric ratios	- K.M, Advancing in Math F4 Pg 51-53 - KLB Bk4 Pg 90-93 - Patel Pg 91 - Malkiat Pg 89	
	2	Trigonometry Deriving the relation $Sin^2 0 + Cos^2 0 = 1$	**By the end of the lesson, the learner should be able to:-** Derive trigonometric identity $Sin^2 0 + Cos^2 0 = 1$	Practice exercise Advancing BK 4, Ex. 4.1 Ex 4.2, Ex 4.3	Charts illustrating the unit circle and right	- K.M, Advancing in Math F4 Pg 59-64 - Patel Pg 91 - Malkiat Pg 91	
	3&4	Trigonometry Trigonometric ratios of the form y = sin x y = tan x y = cos x	**By the end of the lesson, the learner should be able to:-** Draw graphs of trigonometric ratios of the form y = sin x y = tan x y = cos x	Practice exercise KLB Pg 4, Ex. 4.3 Advancing BK 4, Ex. 4.4 and 4.5 Patel BK 4, Ex. 4.2	Square boards Graph papers	- K.M, Advancing in Math F4 Pg 59-64 - KLB Bk4 Pg 96-99 - Patel Pg 93-96 - Malkiat Pg 92	
	6&7	Trigonometry Graphs of Trigonometric relations y = a sin x y = a cos x y = a tan x	**By the end of the lesson, the learner should be able to:-** Draw graphs of trigonometric relations y = sin x y = cos x y = tan x	Drawing graphs KLB Pg 4, Ex. 4.3 Advancing BK 4, Ex. 4.4 Patel BK 4, Ex. 4.3	Square boards Graph papers	- K.M, Advancing in Math F4 Pg 59-63 - KLB Bk4 Pg 96-99 - Patel Pg 97-102 - Malkiat Pg 92	
8	1&2	Trigonometry Simple trigonometric equations, amplitudes, period, wavelength and phase angle of trigonometric function	**By the end of the lesson, the learner should be able to:-** Deduce from the graphs y = sin x y = tan x y = cos x The amplitude, wavelength and phase angle	Practice exercise	Trigonometric relations Graphs	- K.M, Advancing in Math F4 Pg 59-63 - Patel Pg 93 - Malkiat Pg 117	
	3	Trigonometry y = a sin (bx + 0)	**By the end of the lesson, the learner should be able to:-**	Drawing graphs	Square boards	- K.M, Advancing in Math F4 Pg 60	

			Draw graphs of trigonometric ratios of the form y = a sin (bx + 0)		Graph papers	- Patel Pg 108 - Malkiat Pg 101	
	4	Trigonometry y = a cos (bx + 0) y = a tan (bx + 0)	**By the end of the lesson, the learner should be able to:-** Draw graphs of trigonometric ratios of the form y = a cos (bx + 0) y = a tan (bx + 0)	Drawing graphs	Square boards Graph papers	- K.M, Advancing in Math F4 Pg 59-64 - Patel Pg 109 - Malkiat Pg 107	

	5&6	Trigonometry
		Amplitude, period, wavelength and phase
		Phase angles of trigonometric function
			By the end of the lesson, the learner should be able to:-
			Deduce the graphs y = a sin (bx + 0)
			    y = a cos (bx + 0)
			    y = a tan (bx + 0)
				Practice exercise	Trigonometric relations
					Graphs
						- K.M, Advancing in Math F4 Pg 59-64
						- Patel Pg 113
						- Malkiat Pg 92	

	7	Trigonometry Solution to simple Trigonometric equations	**By the end of the lesson, the learner should be able to:-** Solve simple trigonometric equations analytically and graphically	Practice exercise KLB Pg 4, Ex. 4.3 Advancing BK 4, Ex. 4.6 Patel BK 4, Ex. 4.4	Trigonometric relations Graphs	- K.M, Advancing in Math F4 Pg 65-67 - KLB BK 4 Pg 100-102 - Patel Pg 115 - Malkiat Pg 117	
		TOPICAL EXAMS					
9	1	Three Dimensional Geometry Geometrical properties of common solids	**By the end of the lesson, the learner should be able to:-** State the geometric properties of common solids © *Education Plus Agencies*	Practice exercise Advancing BK 4, Ex. 5.1 KLB Pg 4, Ex. 5.1	3-D models	- K.M, Advancing in Math F4 Pg 72-73 - KLB BK 4 Pg 104-106 - Patel Pg 122 - Malkiat Pg 136	
	2	Three Dimensional Geometry Skew lines projection of a line onto a plane	**By the end of the lesson, the learner should be able to:-** Identify projection of a line onto a Plane	Practice exercise Advancing BK 4, Ex. 5.1 KLB Pg 4, Ex. 5.2	3-D models	- K.M, Advancing in Math F4 Pg 73 - KLB BK 4 Pg 118-119 - Patel Pg 125 - Malkiat Pg 139	
	3	Three Dimensional Geometry Length of a line in 3D geometry	**By the end of the lesson, the learner should be able to:-** Calculate the length between two points in 3D geometry	Practice exercise Advancing BK 4, Ex. 5.4	3-D models	- K.M, Advancing in Math F4 Pg 78-80 - Patel Pg 126 - Malkiat Pg 145	
	4	Three Dimensional	**By the end of the lesson, the learner**			- K.M, Advancing in	

		Geometry Angle between a line and a line	**should be able to:-** Identify and calculate the angle between a line and a line	Practice exercise Advancing BK 4, Ex. 5.4	3-D models	Math F4 Pg 77-80 - Patel Pg 129 - Malkiat Pg 140	
	5	Three Dimensional Geometry A line and a plane	**By the end of the lesson, the learner should be able to:-** Identify and calculate the angle between a line and a plane	Practice exercise Advancing BK 4, Ex. 5.3 and 5.4 KLB Pg 4, Ex. 5.1	3-D models	- K.M, Advancing in Math F4 Pg 78-80 - KLB BK 4 Pg 106-109 - Patel Pg 129 - Malkiat Pg 140	
	6	3-D Geometry A plane and a plane	**By the end of the lesson, the learner should be able to:-** Identify and calculate the angle between a line and a plane	Practice exercise Advancing BK 4, Ex. 5.4 KLB Pg 4, Ex. 5.2	3-D models	- K.M, Advancing in Math F4 Pg 78-80 - KLB BK 4 Pg 113-118 - Patel Pg 131 - Malkiat Pg 140	
	7	3-D Geometry Angles between skew lines	**By the end of the lesson, the learner should be able to:-** Identify and calculate the angle between skew lines	Practice exercise Advancing BK 4, Ex. 5.4 KLB Pg 4, Ex. 5.2	3-D models	- K.M, Advancing in Math F4 Pg 78-80 - KLB BK 4 Pg 118-119 - Patel Pg 128 - Malkiat Pg 148	
		TOPICAL EXAMS					

10	1&2	Longitudes and Latitudes
		Latitudes and longitudes (great and small circle)
			By the end of the lesson, the learner should be able to:-
			Define the great and small circle in relation to a sphere (including the earth)
				Practice exercise
				Advancing BK 4,
				Ex. 6.2
				KLB Pg 4, Ex. 6.1
					Globe
					Ball
						- K.M, Advancing in
						  Math F4 Pg 81-83
						- KLB BK 4
						  Pg 125-126
						- Patel Pg 144
						- Malkiat Pg 154	

	3&4	Longitudes and Latitudes
		The equator and Greenwich meridian
			By the end of the lesson, the learner should be able to:-
			Define the great and small circle in relation to a sphere (including the earth)
				Practice exercise
				Advancing BK 4,
				Ex. 6.2
				KLB Pg 4, Ex. 6.1
					Globe
					Ball
						- K.M, Advancing in
						  Math F4 Pg 83
						- KLB BK 4
						  Pg 126-127
						- Patel Pg 145
						- Malkiat Pg 154	

	5	Longitudes and Latitudes
		Position of a place on the surface of the earth
			By the end of the lesson, the learner should be able to:-
			Locate a place on the earth's surface in terms of latitude and longitude
				Practice exercise
				Advancing BK 4,
				Ex. 6.2
				KLB Pg 4, Ex. 6.1
					Globe
					Ball
						- K.M, Advancing in
						  Math F4 Pg 86
						- KLB BK 4
						  Pg 128-129
						- Patel Pg 147
						- Malkiat Pg 157	

	6	Longitudes and Latitudes
		Radii of small and great circles
			By the end of the lesson, the learner should be able to:-
			Establish the relationship between the radii of small and great circles
				Practice exercise
				Advancing BK 4,
				Ex. 6.4
				KLB Pg 4, Ex. 6.2
					Globe
					Ball
						- K.M, Advancing in
						  Math F4 Pg 89
						- KLB BK 4
						  Pg 133-134
						- Patel Pg 147
						- Malkiat Pg 156	

	7	Longitudes and Latitudes
		Distance between two points along the small and great circle in nautical miles and kilometres
			By the end of the lesson, the learner should be able to:-
			Calculate the distance between two points along the great circles and small circles (longitudes and latitudes) in nautical miles (nm) and kilometres (km)
				Practice exercise
				Advancing BK 4,
				Ex. 6.4
				KLB Pg 4, Ex. 6.2
					Globe
					Ball
						- K.M, Advancing in
						  Math F4 Pg 87-90
						- KLB BK 4
						  Pg 130-139
						- Patel Pg 148-152
						- Malkiat Pg 159	

11	1&2	Longitudes and Latitudes
		Distance in nautical miles and kilometers along a circle of latitude
			By the end of the lesson, the learner should be able to:-
			Calculate the distance in nautical miles and kilometers along a circle of latitude
				Practice exercise
				Advancing BK 4,
				Ex. 6.5
				KLB Pg 4, Ex. 6.3
					Globe
					Ball
					Calculators
						- K.M, Advancing in
						  Math F4 Pg 87-98
						- KLB BK 4
						  Pg 130-133
						- Patel Pg 152
						- Malkiat Pg 164	

	3&4	Longitudes and	**By the end of the lesson, the learner**			- K.M, Advancing in	

		Latitudes Time and longitude	**should be able to:-** Calculate time in relation to kilometers per hour	Practice exercise Advancing BK 4, Ex. 6.5 KLB Pg 4, Ex. 6.3	Globe Ball Calculators	Math F4 Pg 91-92 - KLBBk4Pg141-142 - Patel Pg 158 - Malkiat Pg 173
	5-7	Longitudes and Latitudes Speed in knots and kilometer per hour	**By the end of the lesson, the learner should be able to:-** Calculate speed in knots and kilometer per hour	Practice exercise Advancing BK 4, Ex. 6.6 KLB Pg 4, Ex. 6.3	Real life situation	- K.M, Advancing in Math F4 Pg 96-98 - KLB BK 4 Pg 150 - Patel Pg 164 - Malkiat Pg 184
		TOPICAL EXAMS				
12	1-3	Linear Programming Formation of linear Inequalities	**By the end of the lesson, the learner should be able to:-** Form linear inequalities based on real life situations	Practice exercise Advancing BK 4, Ex. 7.3 KLB BK 4, Ex. 7.1	Inequalities	- K.M, Advancing in Math F4 Pg 94-95 - KLB BK 4 Pg 151-152 - Patel Pg 168 - Malkiat Pg 189
	4&5	Linear Programming Analytical solutions of linear inequalities	**By the end of the lesson, the learner should be able to:-** Analyze solutions of linear inequalities	Practice exercise Advancing BK 4, Ex. 7.1 KLB BK 4, Ex. 7.2	Square boards Graph papers	- K.M, Advancing in Math F4 Pg 95-96 - KLB BK 4 Pg 152-155 - Patel Pg 170 - Malkiat Pg 197
	6&7	Linear Programming Solutions of linear inequalities by graph	**By the end of the lesson, the learner should be able to:-** Represent the linear inequalities on a graph	Representing inequalities in a graph Advancing BK 4, Ex. 7.2 KLB BK 4, Ex. 7.2	Square boards	- K.M, Advancing in Math F4 Pg 94-95 - KLB BK 4 Pg 151-152 - Patel Pg 168 - Malkiat Pg 189
13	1-3	Linear Programming Optimization (include objective)	**By the end of the lesson, the learner should be able to:-** Solve and interpret the optimum solution of the linear inequalities	Practice exercise Advancing BK 4, Ex. 7.5 KLB BK 4, Ex. 7.3	Graph paper	- K.M, Advancing in Math F4 Pg 95-96 - KLB BK 4 Pg 152-155 - Patel Pg 170 - Malkiat Pg 197
	4-7	Linear Programming Application of linear programming to real life situation	**By the end of the lesson, the learner should be able to:-** Solve and interpret the optimum solution of the linear programming to	Practice exercise Advancing BK 4, Ex. 7.5	Real life situations Square boards Graph paper	- K.M, Advancing in Math F4 Pg 99-100 - KLB BK 4 Pg 157-159

				KLB BK 4, Ex. 7.3		- Patel Pg - Malkiat Pg 201	
		TOPICAL EXAMS					

14	1&2	Differentiation
		Average and instantaneous rates of change
			By the end of the lesson, the learner should be able to:-
			Find out the average rates of change and instantaneous rate of change
				Practice exercise
				Advancing BK 4,
				Ex. 8.1
				KLB BK 4, Ex. 8.1
					Square boards
					Graph paper
						- K.M, Advancing in
						  Math F4 Pg100-103
						- KLB BK 4
						  Pg 157-159
						- Patel Pg 177
						- Malkiat Pg 212	

	3&4	Differentiation
		Gradient of a curve at a point
			By the end of the lesson, the learner should be able to:-
			Find the gradient of a curve at a point using tangent
				Practice exercise
				Advancing BK 4,
				Ex. 8.2
				KLB BK 4, Ex. 8.1
					Square boards
					Graph paper
						- K.M, Advancing in
						  Math F4 Pg 109
						- KLB BK 4
						  Pg 162-163
						- Patel Pg 181
						- Malkiat Pg 214	

	5&6	Differentiation
		Gradient of $y = x^n$ where n is a positive interger
			By the end of the lesson, the learner should be able to:-
			Find the gradient function of the form $y = x^n$ (n = positive interger)
				Practice exercise
				Advancing BK 4,
				Ex. 8.2 and 8.3
				KLB BK 4, Ex. 8.1
					Square boards
					Graph paper
						- K.M, Advancing in
						  Math F4 Pg 110
						- KLB BK 4
						  Pg 164-167
						- Patel Pg 183
						- Malkiat Pg 214	

	7	Differentiation
		Delta notation (Δ)
			By the end of the lesson, the learner should be able to:-
			- Relate the delta notation to rates of
			  change
			- Define derivative of a function
			  polynomial and differentiation
				Practice exercise
				Advancing BK 4,
				Ex. 8.2 and 8.4
				KLB BK 4, Ex. 8.1
					Square boards
					Graph paper
						- K.M, Advancing in
						  Math F4 Pg114-115
						- KLB BK 4
						  Pg 167-170
						- Patel Pg 182
						- Malkiat Pg 217	

15		**END TERM EXAMS**					

MATHEMATICS FORM 4 SCHEMES OF WORK – TERM 2 2024

WK	LSN	TOPIC/S-TOPIC	OBJECTIVES	L/ACTIVITIES	L/T AIDS	REFERENCE	REMARKS
		SCHOOL OPENING					
1	1	Differentiation Derivation of a Polynomial	**By the end of the lesson, the learner should be able to:-** Determine the derivate of a polynomial	Practice exercise Advancing BK 4, Ex. 8.1 KLB BK 4, Ex. 8.1	Polynomials	- K.M, Advancing in Math F4 Pg116-117 - KLB BK 4 Pg 170-171 - Patel Pg 185 - Malkiat Pg 216	
	2	Differentiation Equations of tangents And normal to the Curve	**By the end of the lesson, the learner should be able to:-** Find the equations of tangents and normals to the curves	Practice exercise Advancing BK 4, Ex. 8.5 KLB BK 4, Ex. 8.2	Square boards Graph paper	- K.M, Advancing in Math F4 Pg117-118 - KLB BK 4 Pg 173-174 - Patel Pg 187 - Malkiat Pg 222	
	3	Differentiation Stationery point	**By the end of the lesson, the learner should be able to:-** Sketch a sketch	Practice exercise Advancing BK 4, Ex. 8.6 KLB BK 4, Ex. 8.3	Square boards Graph paper	- K.M, Advancing in Math F4 Pg118-120 - KLB BK 4 Pg 174-179 - Patel Pg 191 - Malkiat Pg	
	4	Differentiation Curve sketching	**By the end of the lesson, the learner should be able to:-** Sketch a curve	Practice exercise Advancing BK 4, Ex. 8.7 KLB BK 4, Ex. 8.4	Square boards Graph paper	- K.M, Advancing in Math F4 Pg120-121 - KLB BK 4 Pg 180-181 - Patel Pg 197 - Malkiat Pg 231	
	5	Differentiation Application of differentiation to calculation of distance velocity and acceleration	**By the end of the lesson, the learner should be able to:-** Apply differentiation in calculating distance, velocity and accelaration	Practice exercise Advancing BK 4, Ex. 8.8 KLB BK 4, Ex. 8.5	Square boards Graph paper	- K.M, Advancing in Math F4 Pg121-123 - KLB BK 4 Pg 182-183 - Patel Pg 200 - Malkiat Pg 235	
	6&7	Differentiation Maxima and minima	**By the end of the lesson, the learner should be able to:-** Apply differentiation in finding maxima	Practice exercise Advancing BK 4,	Square boards	- K.M, Advancing in Math F4 Pg118-120 - KLB BK 4	

		and minima of a function	Ex. 8.9 KLB BK 4, Ex. 8.6	Graph paper	Pg 186-188 - Patel Pg 192 - Malkiat Pg 227	
		TOPICAL EXAMS				

2	1&2	Area Approximations Area by counting technique	**By the end of the lesson, the learner should be able to:-** Relate approximate area of irregular shapes by counting technique	Practice exercise Advancing BK 4, Ex. 9.1 KLB BK 4, Ex. 9.1	Irregular shapes from Maps Tracing papers	- K.M, Advancing in Math F4 Pg125-127 - KLB BK 4 Pg 190-193 - Patel Pg 207 - Malkiat Pg 248	
	3	Area Approximations Trapezium rule	**By the end of the lesson, the learner should be able to:-** Find and derive trapezium rule	Practice exercise Advancing BK 4, Ex. 9.3 KLB BK 4, Ex. 9.2	Square boards Graph paper	- K.M, Advancing in Math F4 Pg128-130 - KLB BK 4 Pg 194-199 - Patel Pg 208 - Malkiat Pg 251	
	4	Area Approximations Area using trapezium rule	**By the end of the lesson, the learner should be able to:-** Apply trapezium rule estimate area under curves	Practice exercise Advancing BK 4, Ex. 9.4 KLB BK 4, Ex. 9.2	Square boards Graph paper	- K.M, Advancing in Math F4 Pg130-132 - KLB BK 4 Pg 195-199 - Patel Pg 210 - Malkiat Pg 251	
	5	Area Approximations Mid ordinate rule	**By the end of the lesson, the learner should be able to:-** Derive the mid ordinate rule	Practice exercise Advancing BK 4, Ex. 9.5 KLB BK 4, Ex. 9.3	Square boards Graph paper	- K.M, Advancing in Math F4 Pg132-133 - KLB BK 4 Pg 202-205 - Patel Pg 212 - Malkiat Pg 249	
	6&7	Area Approximations Area by mid ordinate rule	**By the end of the lesson, the learner should be able to:-** Apply mid ordinate rule to approximate area under a curve	Practice exercise Advancing BK 4, Ex. 9.5 KLB BK 4, Ex. 9.3	Real life situations	- K.M, Advancing in Math F4 Pg132-133 - KLB BK 4 Pg 202-205 - Patel Pg 212 - Malkiat Pg 249	
		TOPICAL EXAMS					
3	1&2	Integration Differentiation	**By the end of the lesson, the learner should be able to:-** Carry out the process of differentiation	Practice exercise Advancing BK 4, Ex. 10.1 KLB BK 4, Ex. 10.1	Real life situations	- K.M, Advancing in Math F4 Pg133-134 - KLB BK 4 Pg 202-205 - Patel Pg 213-215 - Malkiat Pg 249	
	3&4	Integration	**By the end of the lesson, the learner**			- K.M, Advancing in	

		Reverse differentiation	**should be able to:-** Reverse differentiation	Practice exercise Advancing BK 4, Ex. 10.1 and 10.2 KLB BK 4, Ex. 10.1	Real life situations	Math F4 Pg135-138 - KLBBK4Pg207-210 - Patel Pg 212 - Malkiat Pg 249	
	5-7	Integration Integration, notation and sum of area trapezia	**By the end of the lesson, the learner should be able to:-** Integrate notations and sum of areas of trapezia	Practice exercise Advancing BK 4, Ex. 10.3 KLB BK 4, Ex. 10.1	Square boards Graph paper	- K.M, Advancing in Math F4 Pg138-140 - KLB BK 4 Pg 212-215 - Patel Pg 232 - Malkiat Pg 268	
4	1-3	Integration Indefinite and definite intergral	**By the end of the lesson, the learner should be able to:-** Indefine and define intergral	Practice exercise Advancing BK 4, Ex. 10.4 KLB BK 4, Ex. 10.2	Square boards Graph paper	- K.M, Advancing in Math F4 Pg140-142 - KLB BK 4 Pg 212-215 - Patel Pg 234 - Malkiat Pg 268	
	4&5	Integration Integral notation	**By the end of the lesson, the learner should be able to:-** Intergral notation	Practice exercise Advancing BK 4, Ex. 10.5 KLB BK 4, Ex. 10.3	Polynomials	- K.M, Advancing in Math F4 Pg142-145 - KLB BK 4 Pg 215-220 - Patel Pg 234-237 - Malkiat Pg 266	
	6&7	Integration Application in Kinematics	**By the end of the lesson, the learner should be able to:-** Apply in kinematics	Practice exercise Advancing BK 4, Ex. 10.6 KLB BK 4, Ex. 10.4	Real life situations	- K.M, Advancing in Math F4 Pg145-160 - KLB BK 4 Pg 223-225 - Patel Pg 245 - Malkiat Pg 276	
		TOPICAL EXAMS					
Week		**TOPICAL REVISIONS**					
5		Form two topics chapter one to four (cube and cube root)					
6		Form two topics chapter five to nine (reflection and congruence)					
7		Form two topics chapter nine to thirteen (trigonometrical ratios, area of a triangle, area of quadrilaterals, parts of a circle, surface area of solids)					
8		Form two topics chapter fourteen to seventeen (volume of solids, quadratic expressions and equations, linear inequalities, linear motions)					
9		Form two topics chapter eighteen to twenty (statistics, angle properties of a circle and vectors and translation)					

MATHEMATICS FORM 4 SCHEMES OF WORK – TERM 3

Week	REVISING TRIAL EXAMS (TOPICAL REVISIONS)		
1	Form three topics chapter one to six (quadratic expressions, errors and approximations, trigonometry, surds, further logarithms, commercial arithmetics)		
2	Form three topics chapter seven to twelve (circle, chords and tangents, matrices, formula and variations, sequence and series, vectors, binomial expansion)		
3	Form three topics chapter thirteen to fifteen (probabilities, compound proportions, mixtures and rates of work, graphical methods)		
4	Form four topics chapter one to four (matrices and transformations, statistics, locus and loci, trigonometry)		
5	Form four topics chapter five to eight (three dimensions, longitude and latitudes, linear programming, differentiation)		
6	Form four topics chapter nine to ten (area approximations and integration)		
7-12	KCSE EXAMS		