

**UNIVERSITY OF SWAZILAND
FACULTY OF EDUCATION
MAIN EXAMINATION PAPER 2017**

TITLE OF PAPER: CURRICULUM STUDIES IN MATHEMATICS

COURSE CODE: EDC381

PROGRAMME: B.Ed. 3

TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS: ANSWER ANY **FOUR** QUESTIONS. EACH QUESTION IS WORTH 25 MARKS.

This paper contains 3 pages including this one

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TO DO SO BY THE INVIGILATOR**

Question 1

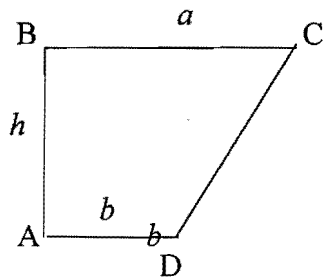
- (a) Discuss **five (5)** language issues in the teaching and learning of school mathematics. [10]
- (b) How would you deal with these issues in your teaching of mathematics? [15]

Question 2

Write an essay on the organisation of the mathematics department for maximum performance of both staff and learners. [25]

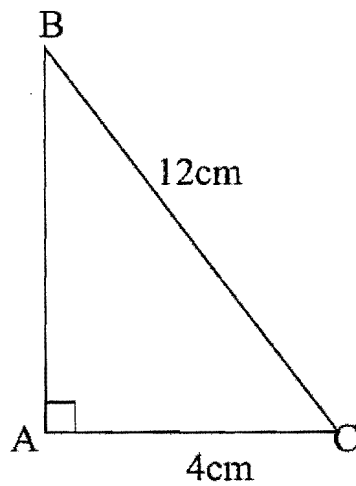
Question 3

- (a) Construct a structured item that would lead learners to discover the formula for area of a trapezium. You may use figure 1 or draw your own diagram(s). [10]



- (b) Write completion items to test learners on all aspects of rounding off decimal numbers to 3 significant figures. Indicate what each item is testing. [9]
- (c) Analyse the multiple choice item 23 on:
 - (i) The stem
 - (ii) The diagram
 - (iii) The responses [6]

23 The size of line AB in the diagram below is:



NOT TO SCALE

A 128

B 16

C $\sqrt{128}$

D 8

Question 4

Write a paper on using a computer to prepare classwork, tests, assignments and examinations in mathematics. In your paper give examples you would use with your audience. [25]

Question 5

Discuss the performance of boys and girls in national examinations as revealed by the results statistics of SPC, JC & SGCSE in **appendix 1**. [25]

APPENDIX 1

SPC

EXAM DATE: 2012/11 EXAM CODE: 2 Swaziland Primary Examination

SUBJECT CODE: ** summary for all schools **

SCH#	SCHOOL NAME	A	B	C	D	E	F	PASS	PERC.
212	MATHEMATICS	729	2326	4508	5187	8008	3435	20758	85.80
3435	14.20								
	>>>>>>>>> M A L E S <<<<<<<<<<	381	1307	2420	2646	3736	1503	10490	87.47
1503	12.53								
	>>>>>>>> F E M A L E S <<<<<<<	348	1019	2088	2541	4272	1932	10268	84.16
1932	15.84								

EXAM DATE: 2013/11 EXAM CODE: 2 Swaziland Primary Examination

SUBJECT CODE: ** summary for all schools **

SCH#	SCHOOL NAME	A	B	C	D	E	F	PASS	PERC.
212	MATHEMATICS	793	2346	4566	5361	8637	3459	21703	86.25
3459	13.75								
	>>>>>>>>> M A L E S <<<<<<<<<<	432	1349	2585	2751	4013	1455	11130	88.44
1455	11.56								
	>>>>>>>> F E M A L E S <<<<<<<	361	997	1981	2610	4624	2004	10573	84.07
2004	15.93								

EXAM DATE: 2014/11 EXAM CODE: 2 Swaziland Primary Examination

SUBJECT CODE: ** summary for all schools **

SCH#	SCHOOL NAME	A	B	C	D	E	F	PASS	PERC.
212	MATHEMATICS	975	2207	4037	5031	8988	3097	21238	87.27
3097	12.73								
	>>>>>>>>> M A L E S <<<<<<<<<<	531	1273	2190	2556	4153	1258	10703	89.48
1258	10.52								
	>>>>>>>> F E M A L E S <<<<<<<	444	934	1847	2475	4835	1839	10535	85.14
1839	14.86								

APPENDIX 1

EXAM DATE: 2015/11 EXAM CODE: 2 Swaziland Primary Examination
 SUBJECT CODE: ** summary for all schools **

SCH#	SCHOOL NAME	A	B	C	D	E	F	PASS	PERC.
212	MATHEMATICS	921	2318	4622	5478	9083	3608	22422	86.14
3608	13.86								
	>>>>>>>>> M A L E S <<<<<<<<<<	504	1366	2585	2812	4195	1494	11462	88.47
1494	11.53								
	>>>>>>>> F E M A L E S <<<<<<<	417	952	2037	2666	4888	2114	10960	83.83
2114	16.17								

EXAM DATE: 2016/11 EXAM CODE: 2 Swaziland Primary Examination
 SUBJECT CODE: ** summary for all schools **

SCH#	SCHOOL NAME	A	B	C	D	E	F	PASS	PERC.
212	MATHEMATICS	1010	2737	4757	5623	10097	3744	24224	86.61
3744	13.39								
	>>>>>>>>> M A L E S <<<<<<<<<	590	1550	2613	2890	4757	1599	12400	88.58
1599	11.42								
	>>>>>>>> F E M A L E S <<<<<<<	420	1187	2144	2733	5340	2145	11824	84.64
2145	15.36								

APPENDIX 1

JC

EXAM DATE: 2012/11 EXAM CODE: 3 Junior Certificate Examination
 SUBJECT CODE: ** summary for all schools **

SCH#	SCHOOL NAME	A	B	C	D	E	F	G	H	PASS	PERC.
309	MATHEMATICS	989	1004	1588	2480	2984	2915	698	1	9045	71.45
3614	28.55										
	>>>>>>>>> M A L E S <<<<<<<<<<	589	587	869	1339	1465	1324	321	1	4849	74.66
1646	25.34										
	>>>>>>>> F E M A L E S <<<<<<<	400	417	719	1141	1519	1591	377	0	4196	68.07
1968	31.93										

EXAM DATE: 2013/11 EXAM CODE: 3 Junior Certificate Examination
 SUBJECT CODE: ** summary for all schools **

SCH#	SCHOOL NAME	A	B	C	D	E	F	G	H	PASS	PERC.
309	MATHEMATICS	612	1070	2188	3119	3470	2648	622	5	10459	76.15
3275	23.85										
	>>>>>>>>> M A L E S <<<<<<<<<	373	657	1270	1564	1650	1069	251	2	5514	80.66
1322	19.34										
	>>>>>>>> F E M A L E S <<<<<<<	239	413	918	1555	1820	1579	371	3	4945	71.69
1953	28.31										

EXAM DATE: 2014/11 EXAM CODE: 3 Junior Certificate Examination
 SUBJECT CODE: ** summary for all schools **

SCH#	SCHOOL NAME	A	B	C	D	E	F	G	H	PASS	PERC.
309	MATHEMATICS	718	935	1875	2778	3669	2786	373	0	9975	75.95
3159	24.05										
	>>>>>>>>> M A L E S <<<<<<<<<	418	546	1089	1484	1772	1225	154	0	5309	79.38
1379	20.62										
	>>>>>>>> F E M A L E S <<<<<<<	300	389	786	1294	1897	1561	219	0	4666	72.39
1780	27.61										

APPENDIX 1

EXAM DATE: 2016/11 EXAM CODE: 3 Junior Certificate Examination

SUBJECT CODE: ** summary for all schools **

SCH#	SCHOOL NAME	A	B	C	D	E	F	G	H	PASS	PERC.
309	MATHEMATICS	805	1307	2130	3432	4203	3438	441	1	11877	75.38
3880	24.62										
	>>>>>>>>> M A L E S <<<<<<<<<<	469	731	1145	1740	1975	1616	216	1	6060	76.78
1833	23.22										
	>>>>>>>> F E M A L E S <<<<<<<	336	576	985	1692	2228	1822	225	0	5817	73.97
2047	26.03										

SGCSE

Exam...: 2013/11 13 SGCSE/IGCSE (SWAZILAND)

Excluding Private Candidates

Syllabus Code and Name (%)	A*	A	B	C	D	E	F	G	U	X	Total	Grade C above	
6880 MATHEMATICS	86	209	461	2258	1788	1905	1084	890	2032	78	10713	3014	
28.13 5667 52.89													
	>>>>>>>>> M A L E S <<<<<<<<<<	63	147	303	1345	955	974	506	365	900	30	5558	1858
33.42 2800 50.37													
	>>>>>>>> F E M A L E S <<<<<<<	23	62	158	913	833	931	578	525	1132	48	5155	1156
22.42 2867 55.61													

APPENDIX 1

Exam...: 2014/11 13 SGCSE/IGCSE (SWAZILAND)

Excluding Private Candidates

Grade C

and Grade D-G Syllabus Code and Name (%) (%)	A*	A	B	C	D	E	F	G	U	X	Total	above
6880 MATHEMATICS	84	184	464	2327	1814	2082	1012	954	1818	157	10739	3059
28.48 5862 54.58 >>>>>>>>>>>> M A L E S <<<<<<<<<<<<<	62	128	284	1385	973	1037	476	432	765	67	5542	1859
33.54 2918 52.65 >>>>>>>>>>>> F E M A L E S <<<<<<<<<<<	22	56	180	942	841	1045	536	522	1053	90	5197	1200
23.09 2944 56.64												

Exam...: 2015/11 13 SGCSE/IGCSE (SWAZILAND)

Excluding Private Candidates

Grade C

and Grade D-G Syllabus Code and Name (%) (%)	A*	A	B	C	D	E	F	G	U	X	Total	above
6880 MATHEMATICS	89	250	513	2559	2340	2088	1219	983	1941	116	11982	3411
28.46 6630 55.33 >>>>>>>>>>>> M A L E S <<<<<<<<<<<<<	64	181	315	1448	1234	1033	573	457	843	33	6148	2008
32.66 3297 53.62 >>>>>>>>>>>> F E M A L E S <<<<<<<<<<<	25	69	198	1111	1106	1055	646	526	1098	83	5834	1403
24.04 3333 57.13												