UNIVERSITY OF JOHANNESBURG

FACULTY OF EDUCATION

JUNE SUPPLEMENTARY EXAMINATION 2018

PROGRAMME: B Ed FOUNDATION PHASE

MODULE: MATHEMATICS FOR FOUNDATION PHASE 3A

CODE: **MFP10A3**

TIME: 2 hours

MARKS: 100

EXAMINER: Mr J Maseko

MODERATOR: Ms N. Mbusi (UMP)

(This paper consists of 4 pages)

INSTRUCTIONS:

Read each question carefully before answering it.

Answer all the questions.

Questions can be answered in any sequence but ensure that you clearly number your answers.

Graph paper will be supplied for 3.1.2

Calculators are not allowed.

QUESTION 1 – Theory
[8]

1.1 Name three different methods of collecting data (3)

1.2 Discuss the conditions for which alternate interior angles can be said to be equal in size (2)

1.3 Name three attributes of measurement (3)

QUESTION 2 – Measurement
[42]

2.1 The figure (prism) has the dimensions shown in the diagram.

Not drawn accurately
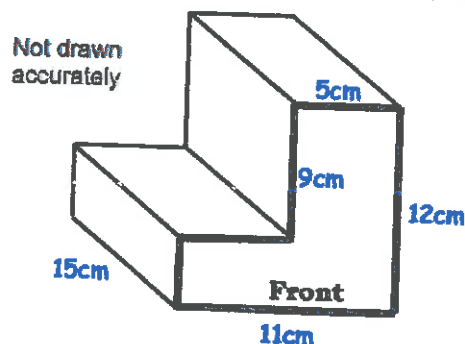
2.1.1 Calculate the area of the **front face** of the prism (**bold lines**) (6)

2.1.2 Calculate the volume of this structure (4)

2.1.3 Calculate the total surface area of the figure – all around (8)

2.2 There are many shapes in the figure including the complete shape. The shapes are:

- rectangles,
- a triangle, and
- trapezia
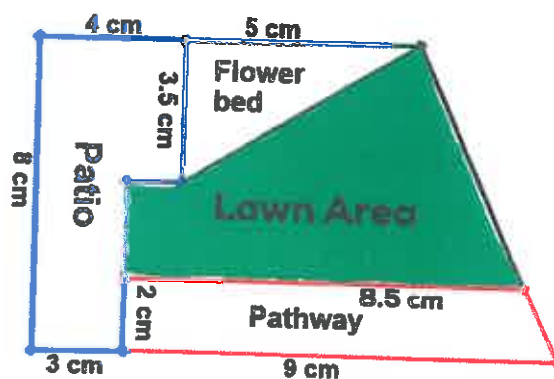
2.2.1 Calculate the perimeter of the **Patio** (6)

2.2.2 Calculate the area of **Patio** (4)

2.2.3 Calculate the area of **Flower bed** (4)

2.2.4 Calculate the area of **Pathway** (4)

2.2.5 Calculate the area of **Lawn Area (shaded)** (6)

Question 3 - Data Handling [28]

3.1 Ten Lottery game draws with very similar results were put together in the information below. Group the data into a frequency table.

Draws	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
B1	26	23	26	23	25	26	23	23	26	34
B2	34	25	41	25	34	35	25	34	36	35
B3	35	26	40	34	36	40	35	35	41	41
B4	44	41	43	35	43	43	43	44	40	40
B5	45	44	44	40	45	44	26	45	45	43
BB	40	45	40	41	45	44	36	40	34	45

3.1.1 Draw a frequency table to represent each number in these categories (4)

Category	Frequency
23-26	
34-36	
40-42	
43-46	

3.1.2 Draw a **pie** chart to show the results summarised in 3.1.1 (4)
Show all the calculations before drawing the pie chart (4)

3.2 Using **ONLY B4** and **BB** rows (20 numbers), do the following

3.2.1 Sort these 20 numbers in an ascending order in one row (3)

3.2.2 Find the **mean** (3)

3.2.3 Find the **modal** number (1)

3.2.4 Find the **median** of the numbers (2)

3.3 "**Offloading method**" application

3.3.1 Calculate the **average** of the five given numbers	123	398	69	94	311	(2)

3.3.2 Use the "offloading method" to show how to get the your average following numbers (5)

|	311	69	94	398	123
Offloads					
New numbers					
Offloads					
New numbers					
Offloads					
New numbers					

QUESTION 4 – Angles in quadrilateral

[22]

Use this accompanying diagram to answer all the corresponding questions and provide reasons for each case. **PQ//TR** and **QR//TN**
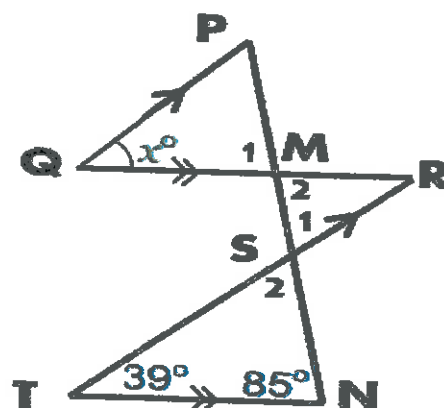
4.1	What is the size of angle S_2?	(2)
4.2	What is the size of angle M_1?	(4)
4.3	What is the size of angle R?	(2)
4.4	What is the size of angle Q (i.e. x)?	(2)

Use this accompanying diagram to answer all the corresponding questions and provide reasons for each case. **AB//CD//EG**
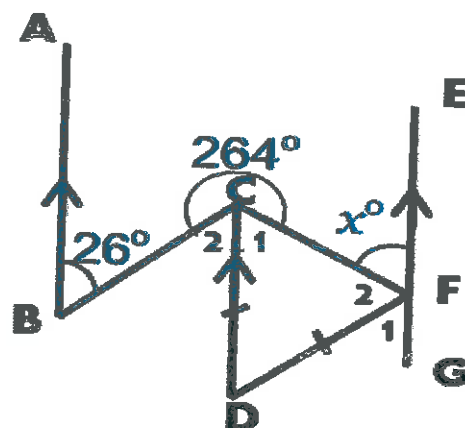
4.5	What is the size of angle C_2?	(2)
4.6	What is the size of angle F_2?	(4)
4.7	What is the size of angle x?	(2)

4.8 You have a regular polygon with **22** sides. By showing all the calculations,

    4.8.1 determine the sum of interior angles (2)

    4.8.2 determine the size of each interior angle (2)

END OF EXAMINATION

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TOTAL = 100