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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. Swanepoel (UP)

(This paper consists of 5 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.

- All the figures are NOT drawn to scale

- Graph paper will be supplied for 3.1.2 in page 5

- 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	[33]
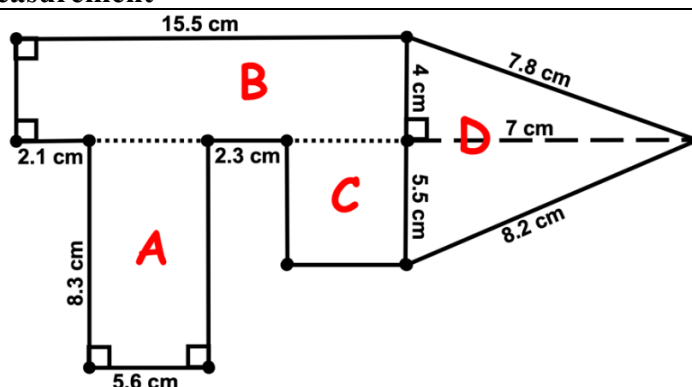
2.1 Use the information provided on the compound figure, ABCD. Then calculate:
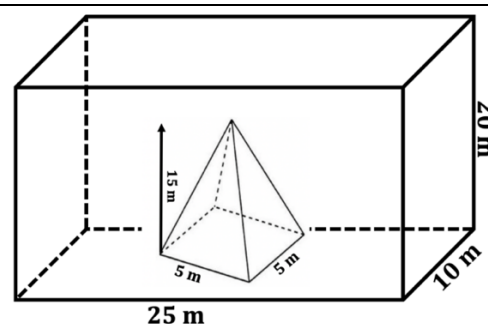
2.1.1 the **perimeter** of the whole figure (6)

2.1.2 the **total area** of the whole figure (7)

2.2 A square-based pyramid, **15m** high, is Inside a rectangular tank, **20m** high, which is full of water.

2.2.1 Determine the *volume of the water tank* (5)

2.2.2 Determine the *space the pyramid occupies* (5)

2.2.3 Calculate the remaining volume of the water tank as the pyramid was put inside the tank. (3)

2.3 Consider the given parameters (in **cm**) shown on this hollow portable compact podium used by Caster Semenya to place her won medals. The height for each part is **gold** (**blue** – 39.5); **silver** (**black** – 29.5); and **bronze** (**red** – 17.5) high. Then calculate the total surface area of **podium (all around)** (7)
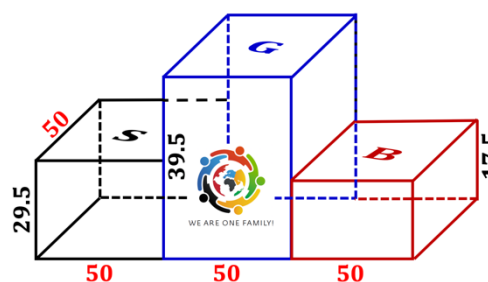
Question 3 - Data Handling   [28]

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 these seven given numbers	**152; 111; 65; 93; 246; 9; 150**	(2)

3.3.2 **Then** use the "offloading method" to show how to get the your average following numbers in 3 steps							(5)
	87	**175**	**56**	**356**	**101**	**19**	**32**
Offloads							
New numbers							
Offloads							
New numbers							
Offloads							
New numbers							

QUESTION 4 – Angles in quadrilateral	[31]
Use this accompanying diagram to answer all the corresponding questions and to provide reasons for each case. **AT//CD**	
4.1 What is the size of angle **x**?	(2)
4.2 What is the size of angle **s**?	(2)
4.3 What is the size of angle **r**?	(2)
4.4 What is the size of angle **y**?	(2)
4.5 What is the size of angle **p**?	(2)
4.6 Based on the results for the angles above, is $EF//CG$?	(4)
Use this accompanying diagram to answer all the corresponding questions and provide reasons for each case. **A pair of lines a parallel as indicated** 4.7 What is the size of angle **t**? (5) 4.8 What is the size of angle **u**? (4) 4.9 What is the size of angle **a**? (4)	
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   **TOTAL = 100**

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