



UNIVERSITY OF JOHANNESBURG

FACULTY OF EDUCATION

JUNE EXAMINATION 2014

PROGRAMME: FOUNDATION PHASE

MODULE: MATHEMATICS FOR TEACHING FOUNDATION PHASE 3A

CODE: **MFP3A10**

TIME: 3 HOURS

MARKS: 110

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MODERATORS: Dr. P. J. Makonye

(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. Calculators are not allowed.

QUESTION 1 – Theory

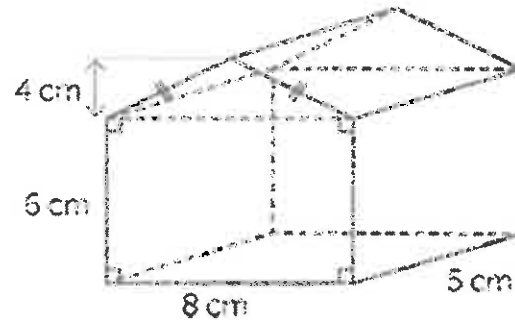
[20]

- 1.1 Name five attributes of measurement (5)
- 1.2 What are the two standard units of measurement systems used in the world? (2)
- 1.3 What is the difference between capacity and volume? (4)
- 1.4 What are the three basic steps involved in the concept of measurement? (3)
- 1.5 Discuss the conditions that alternate interior angle can be equal in size. (3)
- 1.6 Describe three different methods of collecting data. (3)

QUESTION 2 – Measurement

[35]

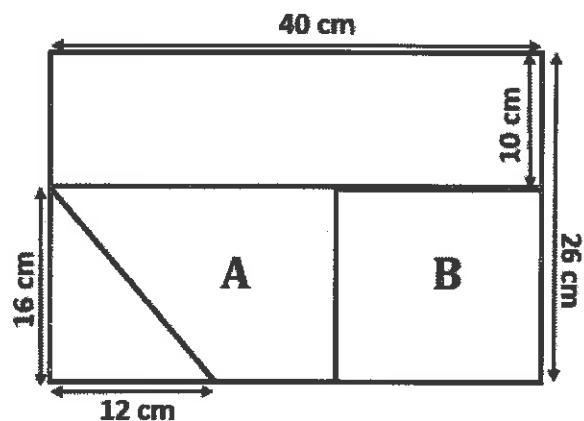
2.1 The figure (prism) has the dimensions shown in the diagram.



- 2.1.1 Calculate the area of the front face of the prism (6)
- 2.1.2 Calculate the Volume of this structure (4)
- 2.1.3 Calculate the total Surface Area of the figure (8)
- 2.1.4 Express the Surface Area of the figure in m^2 (2)

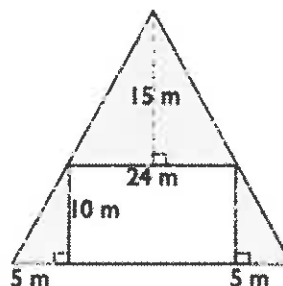
2.2 There are five shapes in the figure including the complete shape. The shapes are:

- a small rectangle,
- a triangle,
- a trapezium (A),
- a square (B), and
- a big rectangle.



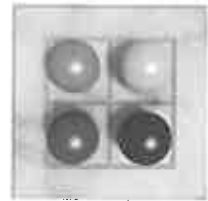
- 2.2.1 Calculate the perimeter of the **big rectangle** (3)
- 2.2.2 Calculate the perimeter of shape **A** (4)
- 2.2.3 Calculate the area of shape **B** (3)

2.3 Calculate the size of the shaded area of this figure below (5)



QUESTION 3 – Data Handling**[20]****3.1**

6 learners during Life Skills class threw a tennis ball to heat one of the coloured balloons. Look at the information below after they have taken 10 turns on the game. Use the balloons' colours to group the data into a tally chart.



| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Red | Green | Blue | Green | Black | Blue | Blue | Blue | Red | Black |
| Green | Red | Green | Red | Blue | Red | Black | Blue | Green | Blue |
| Black | Blue | Red | Blue | Red | Black | Blue | Red | Red | Red |
| Black | Red | Green | Green | Green | Red | Red | Black | Blue | Green |
| Red | Blue | Black | Green | Blue | Red | Black | Red | Black | Blue |
| Green | Red | Green | Red | Blue | Red | Black | Blue | Green | Blue |

3.1.1 Draw a frequency table to represent this information (4)

3.1.2 Draw a pie chart to show the results summarised in 3.1.1 (4). Show all the calculations (4) (8)

3.1.3 Draw a **column** chart to represent this information (4)

3.2 The table gives information about 8 animals the grade 3 learners have seen in real life

| Animal | Ant | Bat | Cat | Dog | Eagle | Fish | Goat | Horse |
|-------------|-----------|-----------|-----------|-----------|----------|-----------|-----------|----------|
| Seen | 27 | 10 | 16 | 30 | 5 | 10 | 12 | 9 |

Use this information to draw a **line** graph. (4)

QUESTION 4 - Data Handling**[13]**

Given that the following were the marks attained by a grade R class out of 10:

1 9 5 1 1 2 2 2 3 2 4 6 7 7 8 6 6 6 8 6 9 9 7 5 6 4 5 3 4 2 6 5 4 1 7

4.1 Draw a frequency table to represent this information (4)

4.2 Find the Mean mark (3)

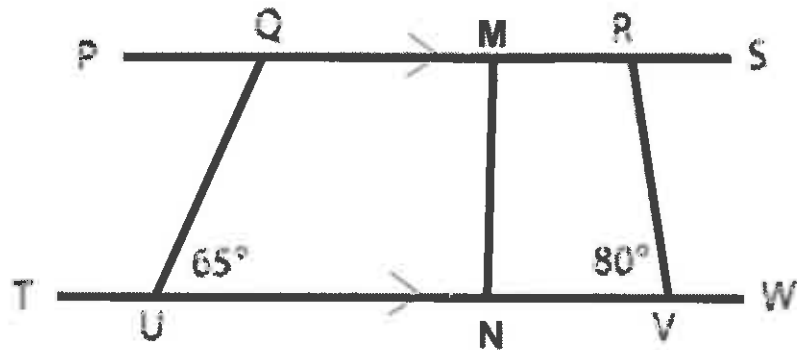
4.3 Find the Modal mark (2)

4.4 Find the Median of the marks (2)

4.5 Find the Range of the mark (2)

QUESTION 5 – Angles in quadrilateral**[22]**

In this diagram lines PS and TW are parallel



- 5.1 What kind of quadrilateral is QRVU? (3)
- 5.2 What is the size of angle PQU? (3)
- 5.3 What is the size of angle RQU? (3)
- 5.4 What is the name of angle QRV? Explain why. (4)
- 5.5 If MN is perpendicular to TW, what is the size of angle NMR (3)
- 5.6 You have a regular polygon with 12 sides. Show all the calculations.
- 5.6.1 What is the size of each angle? (3)
- 5.6.2 What is the sum of interior angles? (3)

END OF EXAMINATION**TOTAL = 110**