



UNIVERSITY OF JOHANNESBURG
FACULTY OF EDUCATION
NOVEMBER EXAMINATION 2016

PROGRAMME: BED FOUNDATION PHASE
MODULE: MATHEMATICS FOR FOUNDATION PHASE 2B
CODE: MFP20B2
TIME: 2 hours
MARKS: 130
EXAMINER: PROF. K. LUNETTA
MODERATOR: DR. JP MAKONYE

(This paper consists of 5 pages)

INSTRUCTIONS

Read the following instructions carefully before answering the questions.

1. This question paper consists of 5 questions divided into several parts
2. Answer ALL the questions
3. No calculators are allowed in this examination

QUESTION 1

- i. Discuss the difference between capacity and volume? (2)
 - ii. What do you understand by the term conservation of capacity? (2)
 - iii. Discuss the difference between mass and weight. (2)
 - iv. In measurements what do you understand by the terms standard and none standard units of measurements, provide examples in each case. (6)
 - v. How many **faces**, **edges** and **vertices** does a pentagonal cone have (6)
- [18]

QUESTION 2

Define and draw the following angle

- i. Complementary angles (3)
 - ii. Supplementary angles (3)
 - iii. Congruent triangles (3)
- [9]

QUESTION 3

Draw the following angles

- i. Acute angle (2)

- ii. Reflex angle (2)
- iii. An obtuse angle (2)
- [6]

QUESTION 4

Name the TWO units used to measure the following attributes in imperial and metric systems

Attribute	Imperial Units	Metric Units
Volume		
Perimeter		
Mass		

[6]

QUESTION 5

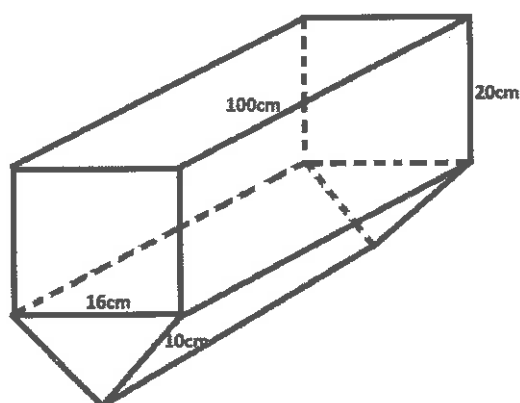
Complete the table below

Km	.....cm	.....mm
534219 mm	.....m	.....km
524300g	.....kg	.....tonnes
2400 minutes	.....hr	.....seconds
0.75l	.....cm ³	.....m ³

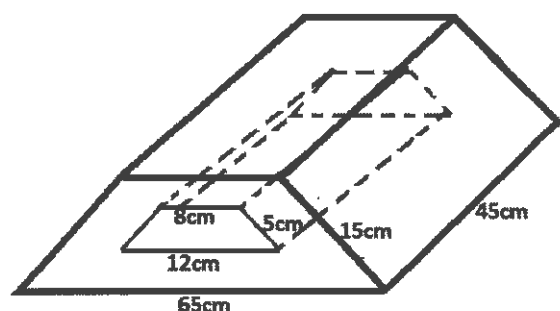
[10]

QUESTION 6

- i. Draw the net of the polyhedron below (6)
- ii. Find the volume of the polyhedron in litres (10)



[15]

QUESTION 7

The above figure show a trapezium block of precious metal with a similar hole drilled into it. If the perpendicular height of the block is 12 cm and that of the hole is 4 cm,

- i. Calculate the volume of the precious metal (6)
- ii. If a container has dimensions of 1000 cm by 1000cm by 200cm how many of the precious metal blocks will it take to fill in up. (8)

[14]

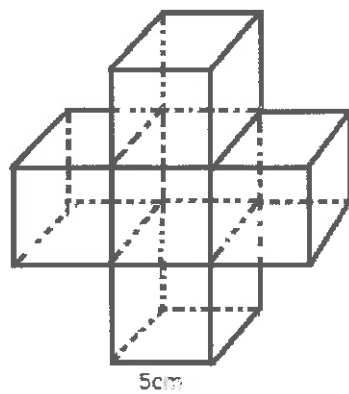
QUESTION 8

- i. A motor cyclist covers 120km in 45 minutes how many km will the cyclist cover at the same speed in 2700 seconds? (4)
- ii. Find the speed of a car in m/sec that covers 150 km in 1.15hrs. (4)

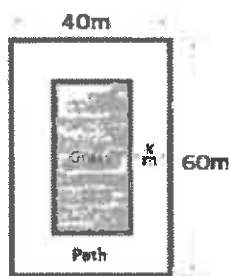
[8]

QUESTION 9

- i. If the time difference between Lagos and Johannesburg is 3hrs, at what time and day will a plane that leaves Lagos at 21.25hrs on Monday night arrive in Johannesburg if the flight is 6 hrs? (5)
- ii. If a regular octagonal field is fenced with a 72 000 cm wire mesh, what is the length of each side in metres? (5)
- iii. A. The figure below is a bronze metal cross made up of 5 cubes, if each cube weighs 450 grams what is the tonnage of the cross? (4)
B. What is the volume of the cross? (6)



[20]

QUESTION 10

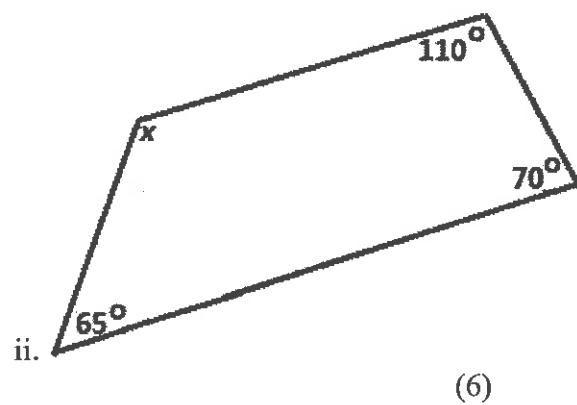
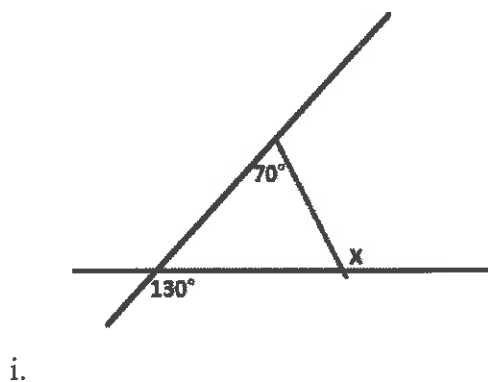
A path of a width x is laid around a rectangular lawn as shown.

- Find an expression for the perimeter of the grass. (4)
- Find an expression for area of the grass. (4)
- If $x = 5$, find the area of the grass (4)

[12]

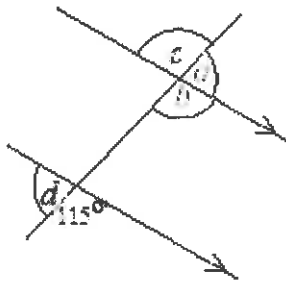
QUESTION 11

11.1 Find the values of X in i and ii below



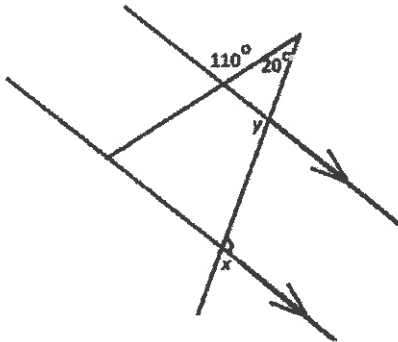
(6)

11.2 Find the values of angles marked: a , b , c and d



(4)

11.3 Find the size of the angles marked *x* and *y* in the diagram below:



(6)

11.4 What is the **sum of the interior angles** of a 40 sided regular shape?

(4)

[14]

TOTAL: 130

