

UNIVERSITY OF FORT HARE

FOUNDATION PHASE STUDIES
MATHEMATICS: FPS 122E

JANUARY SUPPLEMENTARY EXAMINATION

Subject: Mathematics

Time: 3 hours

Date: January 2020

Marks: 100

This paper consists of 7 pages including the
cover page

Internal Examiner

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INSTRUCTIONS

1. Please read the instructions carefully.
2. You need to answer all the questions in your examination book.
3. You can use the last page for your working out but please mark it rough work

Question 1

[20]

In your Curriculum and Assessment Policy Statement (CAPS) document for Mathematics, there are five different content areas, which are to be considered by teachers when planning to teach mathematics. Among the content areas is the one, which is Space and Shape (Geometry).

1.1. Differentiate between:

1.1.1. 2D shape and 3D shape. (4)

1.1.2. Pyramid and Prism (4)

1.1.2. Briefly explain:

- Cylinder (3)
- Cube (3)
- Triangular prism (3)
- Rectangular pyramid. (3)

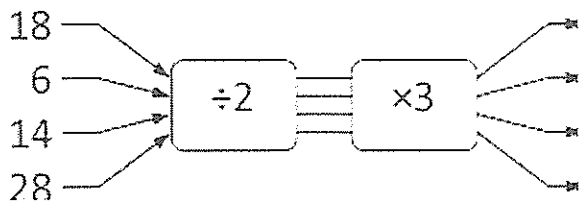
Question 2

[25 Marks]

2.1. How would you expect your Foundation Phase learners to perform the following activities?

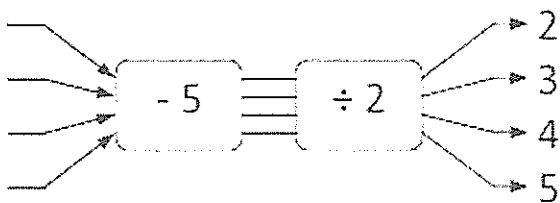
2.1.1 28 34 40 (3)

2.1.2.



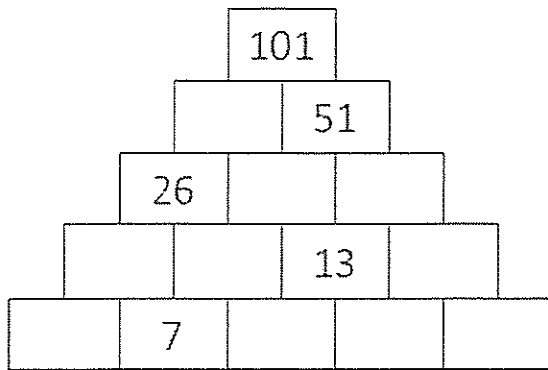
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2.1.3.



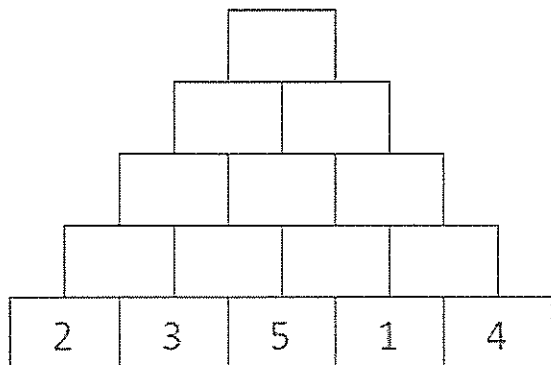
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2.1.4



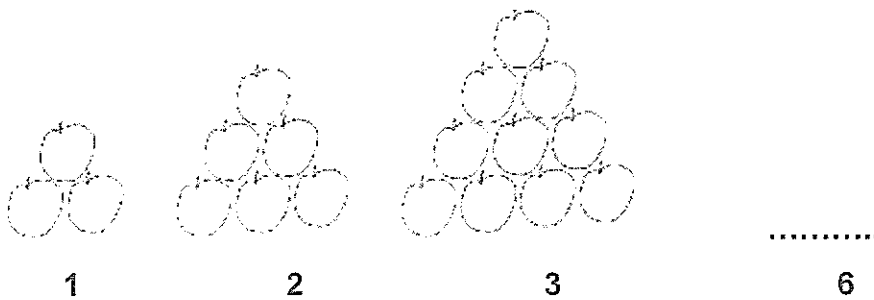
(4)

2.1.5



(4)

2.1.6.



For the pattern above, determine:

1. How many apples will be needed to make the sixth picture in the pattern? (2)
2. Draw a picture/ pattern with 45 apples (4)

QUESTION 3

[20 Marks]

3.1. Name and explain any five Gardner's Multiple Intelligences (10)

3.2. *Recently, constructivism is viewed as one of the focused issue in educational context, as it illustrate learner progress (Shumaila & Imran, 2013).*

Referring to the statement above, briefly discuss what you understand about social constructivism in education. Your discussion should include the following:

3.2.1. Constructivism (What is constructivism?). (5)

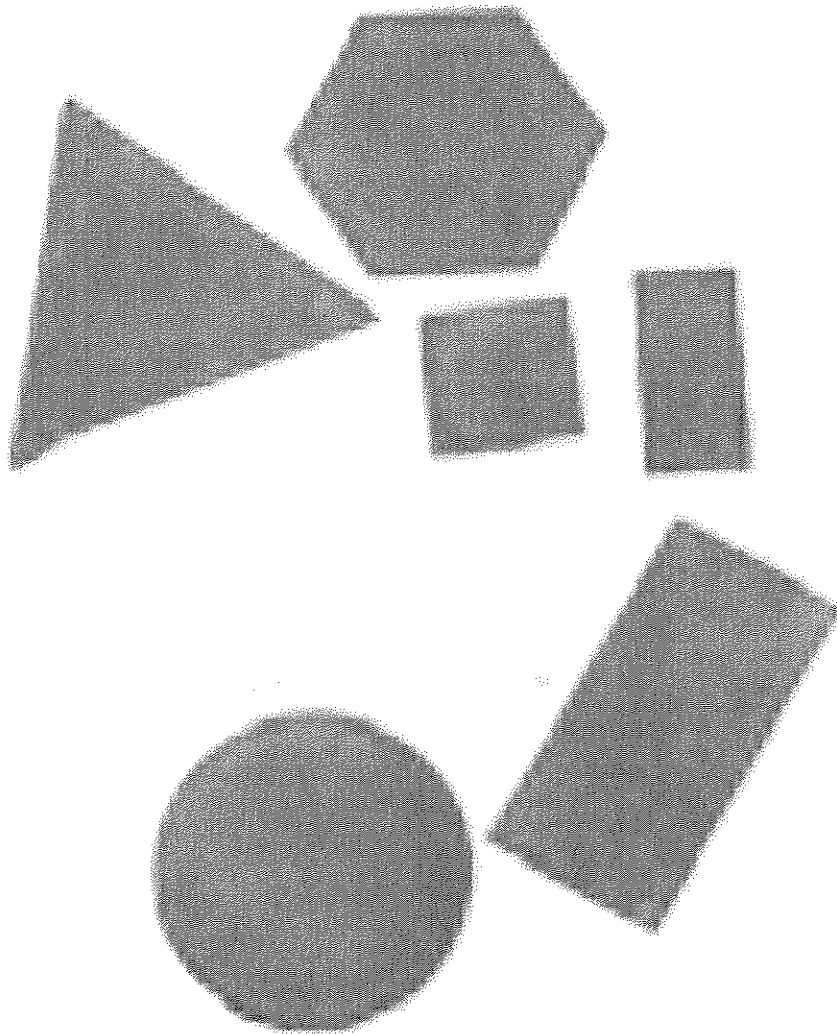
3.1.2. Social constructivism (in education). (5)

QUESTION 4

[20 Marks]

4.1. As a grade R teacher, you gave your learners shapes that are shown below, to do sorting activity. Answer questions that follows:

Fig 1: Different kinds of shapes



- 4.1.1. Name three different ways in which your learners can sort the shapes. (3)
- 4.1.2. Name the content area on which this activity is based? (1)
- 4.2. *Pierre van Hiele observed children developing geometric reasoning and provided a description of the levels through which they evolve, from recognising figures to being*

able to develop formal proofs. He identified five levels (Department of Basic Education, 2009).

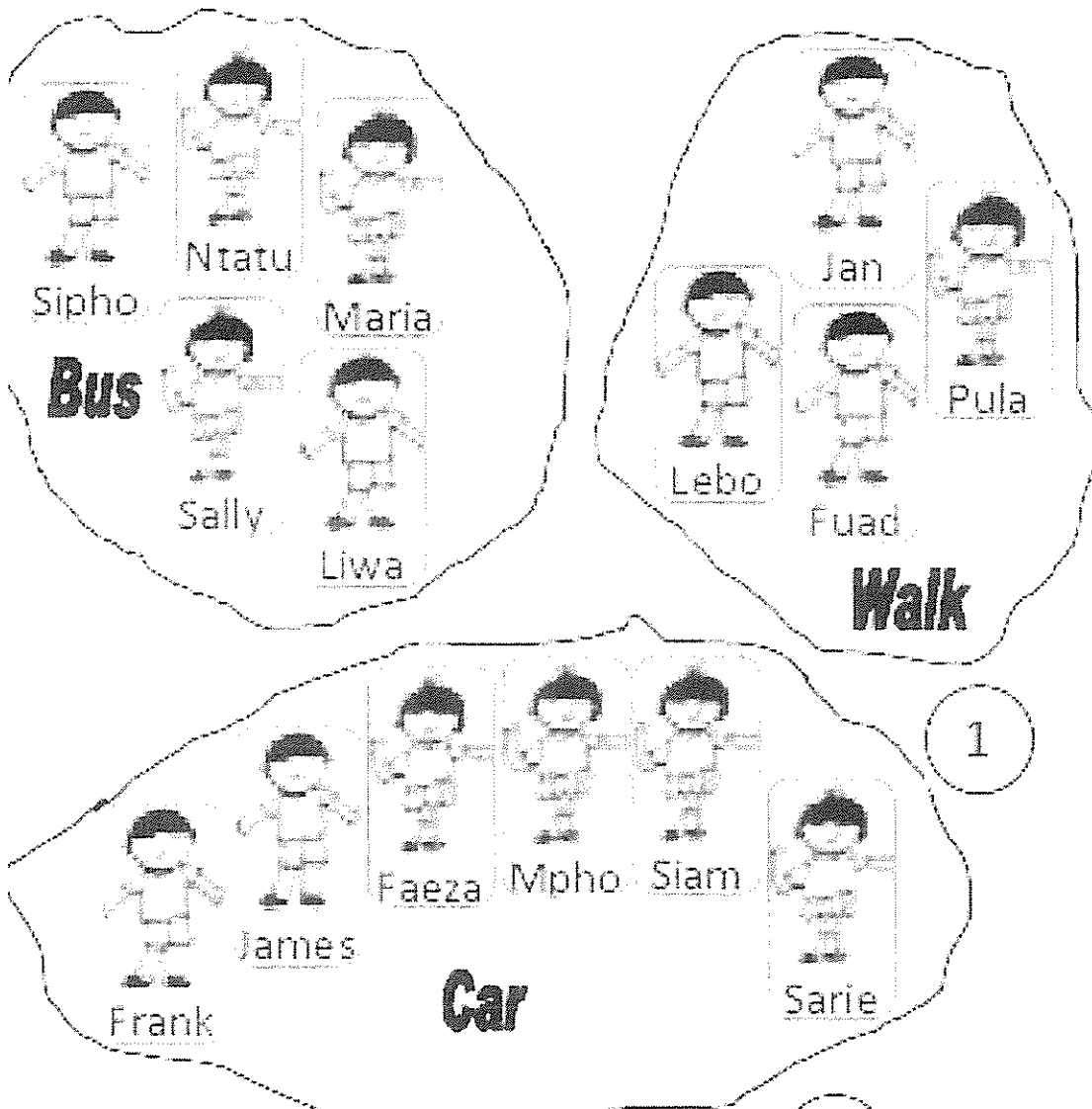
4.2.1. Name and briefly discuss each level. (10)

4.2.2. Complete the sentence written below:

There is little expectation that children in the Foundation Phase will reach the andlevels. (2)

4.3. Information collected in response to question: How do you travel to school?

Fig 2: Organizing and representing data.



4.3.1. How many learners took part in the collection of this data? (1)

4.3.2. Represent data in tally table. (3)

QUESTION 5**[15 Marks]**

5.1. What is the value of 5 in each of these numbers. Write the answer in numbers.

i) 154 289

ii) 5 834 974

iii) 8 382 705

iv) 563 008

v) 413 978 950 (5)

5.2. The learners were given the mathematics problems and one of the learners wrote the following answers:

1. $2/4 + 5/4 = 7/8$ (2)

2. $3/5 - 1/2 = 2/3$ (4)

3. $543 - 237 = 314$ (2)

4. $36 + 86 = 1112$ (2)

5.2.1. Find the correct answers to the above calculations.

5.2.2. What do you think learners did wrong?

TOTAL = [100 Marks]