

# **GPLMS MATHEMATICS**

## **NOVEMBER 2014 EXAMINATION GRADE 7**

**DURATION: 90 MINUTES**

**DATE: \_\_ NOVEMBER 2014**

**TOTAL MARKS: 100**

**Instructions to Learners:**

1. Answer all questions
2. Write neatly and show all your calculations
3. No Calculator allowed

## SECTION A

There are **FIVE** multiple choice questions in Section A. For each question **FOUR** possible answers are given and only **ONE** answer is correct. For each multiple-choice question, select your answer and indicate your choice by means of a **CIRCLE** on the corresponding letter.

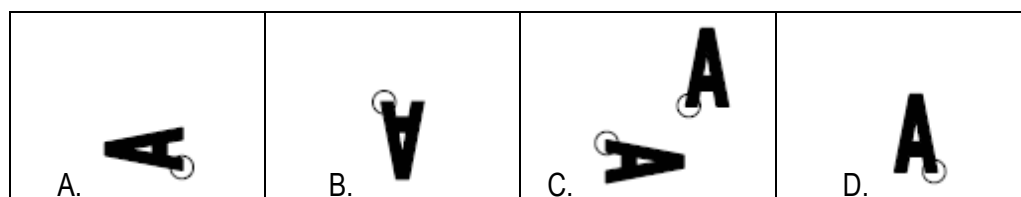
**Example:**  $7 \times 15 = \underline{\hspace{2cm}}$

- ☒ A 105      B 110      C 115      D 120

### Question 1

(5 marks)

1.1 The letter A is rotated  $180^\circ$  about O. What will the position of A be now?



1.2 Choose the correct statement:

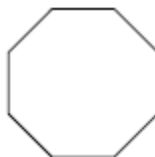
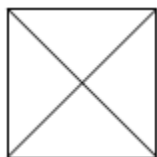
$$7^3 =$$

- A.  $7 \times 3$       B.  $7 + 7 + 7$       C.  $7 \times 7 \times 7$       D.  $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3$

1.3 A factory manufactures dresses and shirts: 3 dresses are manufactured for every 4 shirts manufactured. In a week the factory produced a total of 420 dresses and shirts. How many of these were dresses?

- A. 180      B. 240      C. 140      D. 315

1.4 A square has 2 diagonals and a pentagon has 5. How many diagonals does a regular octagon have? (An octagon has 8 sides.)



- A. 19      B. 28      C. 16      D. 24

1.5 Bus A leaves Gauteng at 10:00 and travels north at 50 km/h. Bus B leaves Gauteng at 12:00 along the same route at 70 km/h. At what time will bus B pass bus A?

- A. 11:30      B. 15:00      C. 18:00      D. 17:00

## SECTION B: Answer ALL the questions

### QUESTION 1

(10 marks)

1.1 Complete:

- a.  $7\,342\,651 = (7\,000\,000) + (3 \times 100\,000) + ( \quad ) + 2\,000 + 651$  (1)
- b. Round off 59 673 to the nearest 10 000.:  $\underline{\hspace{2cm}}$  (1)
- c. Simplify:  $10 + 4 \div 2 = \underline{\hspace{2cm}}$  (1)
- d. Fill in the correct operational sign:  $10 \quad \cdot \quad 2 + 4 = 9$  (1)
- e.  $(14 \div 2) + (51 - 48) = \underline{\hspace{2cm}}$  (1)
- f.  $2^3 = \underline{\hspace{2cm}}$  (1)
- g. Use Prime factors to determine the following:  $\sqrt{16} = \underline{\hspace{2cm}}$  (2)
- h. Write down the multiples of 7 between 21 and 56.  $\underline{\hspace{2cm}}$  (1)
- i. Re-arrange the numbers from the smallest to the biggest. 4,5 : 4,3 ; 4,01 ; 4,8  
 $\underline{\hspace{2cm}}$  (1)

### QUESTION 2

(12 marks)

2.1 Fill < ; > or = in the space provided:  $\frac{2}{3}$   $\frac{1}{2}$  (1)

2.2 Calculate:

|                                                                            |                                                                           |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------|
| a. $\frac{2}{3} - \frac{1}{6}$ Write your answer in the simplest form) (3) | b. $2\frac{2}{3} + 1\frac{2}{5}$ (Leave your answer in improper form) (4) |
| $\underline{\hspace{2cm}}$                                                 | $\underline{\hspace{2cm}}$                                                |
| $\underline{\hspace{2cm}}$                                                 | $\underline{\hspace{2cm}}$                                                |
| $\underline{\hspace{2cm}}$                                                 | $\underline{\hspace{2cm}}$                                                |
| $\underline{\hspace{2cm}}$                                                 | $\underline{\hspace{2cm}}$                                                |
| $\underline{\hspace{2cm}}$                                                 | $\underline{\hspace{2cm}}$                                                |
| $\underline{\hspace{2cm}}$                                                 | $\underline{\hspace{2cm}}$                                                |

|                                                                                                |                                                                                  |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| <p>c. <math>5\frac{1}{3} \times \frac{3}{8}</math> (2)</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> | <p>d. <math>\frac{3}{4}</math> of 28 (2)</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|

### QUESTION 3

(8 marks)

3.1 What is the place value of the underlined digit in 53 486? \_\_\_\_\_

(1)

3.2 Calculate:

|                                                                                                                                 |                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <p>a. <math>6,5 - 2,34</math> (2)</p> <hr/> <hr/> <hr/> <hr/>                                                                   | <p>b. <math>0,06 \times 0,3</math> (2)</p> <hr/> <hr/> <hr/> <hr/> |
| <p>c. <math>3,7 \times 1,4</math></p> <hr/> <hr/> <hr/> <hr/> <hr/> <div style="text-align: right; margin-top: 20px;">(3)</div> |                                                                    |

**QUESTION 4****(9 marks)**

4.1 Fill in &lt; ; &gt; or =:

|                                             |                                              |
|---------------------------------------------|----------------------------------------------|
| a. $-7 \underline{\hspace{1cm}} - 8$<br>(1) | b. $-7 \underline{\hspace{1cm}} - 8 + 1$ (1) |
|---------------------------------------------|----------------------------------------------|

4.2 Calculate:

|                                                         |                                                |
|---------------------------------------------------------|------------------------------------------------|
| a. $-18 - 13 =$<br>(1)                                  | b. $8 + (-27) =$ (1)                           |
| c. $-75 - (-25) =$ (1)<br><br>_____                     |                                                |
| d. $24 = 3 \times r$ (2)<br><br>_____<br>_____<br>_____ | e. $14 + x = 16 - 8$ (2)<br><br>_____<br>_____ |

**QUESTION 5****(7 marks)**5.1 Find the value of  $\Delta$  in the following equations:

|                               |                               |
|-------------------------------|-------------------------------|
| a. $14 + \Delta = 16 - 8$ (1) | b. $24 = 3 \times \Delta$ (1) |
|-------------------------------|-------------------------------|

5.2 Insert brackets to make the number sentence  $18 + 12 \div 2 = 15$  true.

(1)

5.3 a) Solve the following by inspection and check your solution:

(4)

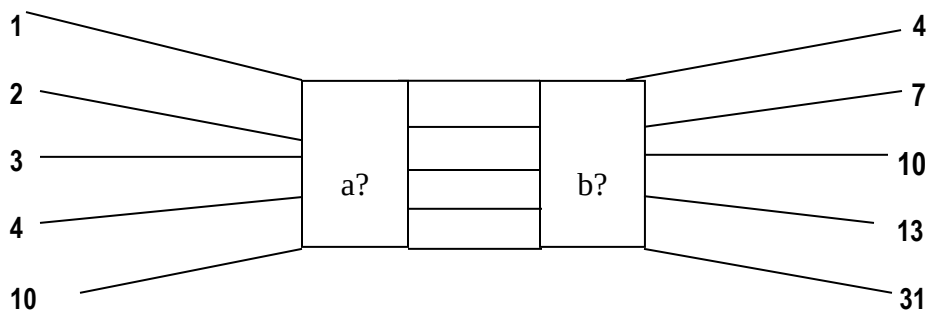
|                  |        |
|------------------|--------|
| i. $9z = 54$     | Check: |
| ii. $y - 4 = 12$ | Check: |

## QUESTION 6

(10 marks)

6.1 Complete the flow diagram by indicate what both “a” and “b” will be below:

(2)

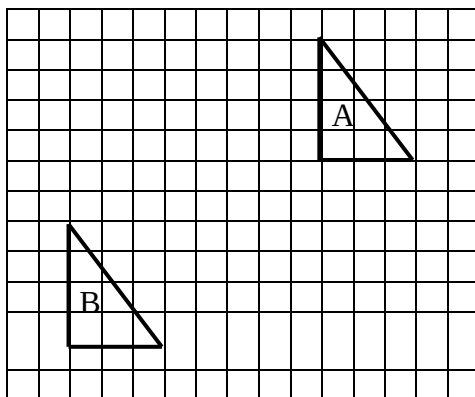


c) Write the rule of the above pattern:

(3)

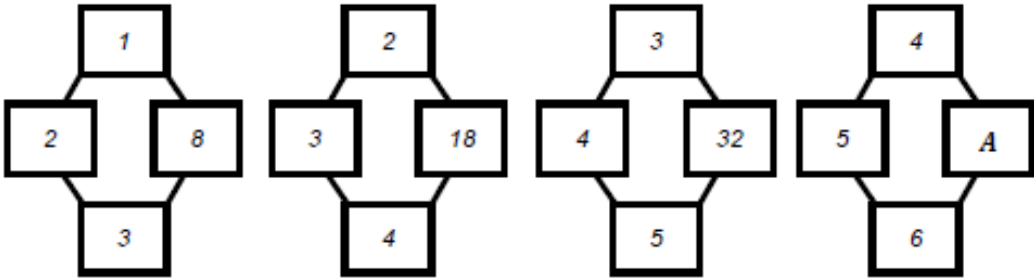
6.2 Making patterns by sliding (translating), reflecting and turning (rotation):

|                                                                                                                                                                                                                                                        |                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>a. Two of the rectangles can be rotated to fit exactly onto the adjacent rectangles. Name the rectangles? (1)</p> <div style="text-align: center;"> <p>A      B      C      D</p> </div> <hr style="border: 0.5px solid black; margin-top: 10px;"/> | <p>b. What kind of transformation is illustrated below? (1)</p> <div style="text-align: center;"> </div> <hr style="border: 0.5px solid black; margin-top: 10px;"/> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|



c. Describe the translation which transformed (changed) the position of triangle A to that of triangle B. (2)

6.3 What is the value of A in the fourth figure? A = \_\_\_\_\_ (1)



**QUESTION 7: DATA HANDLING (26 marks)**

a) The table gives the number of learners in a Grade 7 class who come to school by bus over a period of 13 days.

|                    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Day                | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 |
| Number of learners | 16 | 14 | 13 | 15 | 16 | 14 | 17 | 16 | 17 | 16 | 16 | 15 | 15 |

i. What is the mode of the number of learners? \_\_\_\_\_ (1)

ii. Write the number of learners per day in ascending order: \_\_\_\_\_ (1)

iii. What is the median of the number of learners? \_\_\_\_\_ (2)

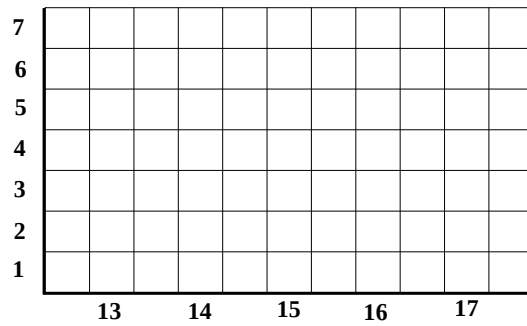
iv. What is the range? (1)

v. Calculate the mean (average)? Round your answer off to 1 decimal place. (4)

vi. Display the above data for the following days in a frequency table: (6)

| Learners per day | Tally | Frequency |
|------------------|-------|-----------|
| 13               |       |           |
| 14               |       |           |
| 15               |       |           |
| 16               |       |           |
| 17               |       |           |

vii. Use the above frequency table and draw a bar graph on the given grid? (5)



b. This is the scores of J. Kallis a South African cricket player:

17; 61; 25; 37; 35; 45; 59; 19; 22; 38; 44; 32; 26; 55; 43

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

Answer the following questions:

i. Name the display of data?

\_\_\_\_\_

(1)

ii. Write down the lowest score?

\_\_\_\_\_

(1)

iii. Write down the highest score?

\_\_\_\_\_

(1)

iv. Find the median

\_\_\_\_\_

(1)

v. Calculate the mean?

(2)



**Question 8**  
**PROBABILITY**

**(3 marks)**

A bowls player has 6 green balls, 4 red balls and 10 yellow balls in his bowls bag.  
What is the probability of drawing the following at random?

- a) A green ball: \_\_\_\_\_ (1)
- b) A ball: \_\_\_\_\_ (1)
- c) A green or red ball: \_\_\_\_\_ (1)

**Question 9**  
**Ratio and rate**

**( 4 marks)**

If Thando gets 10 marks and Dani 20 for a project, complete the following using the simplest form:

- a) The ratio of Thando's marks to Dani's marks is \_\_\_\_\_ (1)
- b) Dani's mark ... times Thando's marks. \_\_\_\_\_ (1)
- c) My mom mixes 6 parts of water with 4 parts of orange juice cordial.
- i) What is the ratio water to orange juice cordial? \_\_\_\_\_ (1)
- ii) Write the fraction (in the simplest form) \_\_\_\_\_ (1)

**Question 10**  
**Geometry of 3D Objects**

**(6 marks)**



Refer to the above 3-D figures and complete the table:

| Questions                           | A | B |
|-------------------------------------|---|---|
| a) the name of each figure          |   |   |
| b) how many faces in A and B?       |   |   |
| c) what the shape of the faces are? |   |   |

**TOTAL: 100**