# BROAD EXAMINATIONS®
## P.7 MATHEMATICS EXAMINATION
## PRE – PLE TRIAL SET II 2022

Time allowed: 2 hours 30 minutes.

| | Random No. | | | | | | Personal No. | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

Pupil's Name:.............................................................................................

School Name: .............................................................................................

District Name: .............................................................................................

### Read the following instructions carefully:

1. This paper is made up of two sections: A and B.

2. Section A has **20** questions (**40 Marks**).

3. Section B has **12** questions (**60 Marks**).

4. Answer **ALL** questions in both sections A and B.

5. All answers must be written in the space provided in blue or black ball point pens and ink. **Only diagrams should be done in pencil.**

6. Unnecessary crossing of answers will lead to loss of marks.

7. Any handwriting, which cannot be easily read, may lead to loss of marks.

8. Do **not** fill anything in the boxes indicated for Examiners' use only.

| FOR EXAMINER'S USE ONLY | | |
|---|---|---|
| **PAGES** | **MARKS** | **SIGN** |
| Page 2 | | |
| Page 3 | | |
| Page 4 | | |
| Page 5 | | |
| Page 6 | | |
| Page 7 | | |
| Page 8 | | |
| TOTAL | | |

### Teacher's comment to the learner
.............................................................................
.............................................................................
.............................................................................
.............................................................................
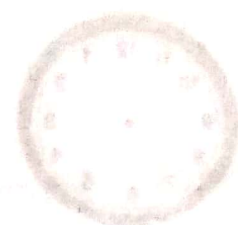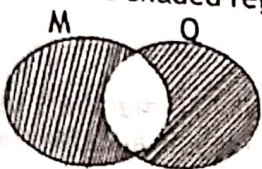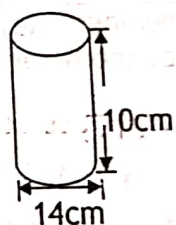
Approved by:

*Team Head Mathematics Dept.*

## SECTION. A. (40 MARKS)

| | | | |
|---|---|---|---|
| **1.** | Add 22 + 33 | **2.** | Given that set P = {m, a, n}, list all possible subsets of set P. |
| **3.** | Expand 436 using place values. | **4.** | Convert 4.5m to centimeters. |
| **5.** | Find the Lowest Common Multiple of 12 and 15. | **6.** | Work out: $\dfrac{1}{5} + \dfrac{3}{15}$ |
| **7.** | Draw a symbol for a right angle below | **8.** | Manager issued out receipts to customers from receipt number 3486 to 3496. How many receipts did he issue out? |
| **9.** | Increase 120 pupils in the ratio of 5:3. | **10.** | Given that a = 6, b = 8 and c = 4. Find the value of $\dfrac{2ab}{c}$ |

| 11. | Arrange ·4, ·3, 0, ·1 and ·5 in ascending order. | 12. | A cyclist moved from town A to town B at a speed of 30km/hr in just 2 hours. How far is town A from town B? |
|---|---|---|---|
| 13. | Describe the shaded region below.  | 14. | If  represents 6 cups, draw pictures to represent 3 dozens of cups. |
| 15. | Using a ruler, a pencil and a pair of compasses, construct an angle of 165°. | 16. | The diagram below shows a cylindrical tin full of water. Find its volume  |
| 17. | Write 0.125 as a vulgar fraction in its simplest form. | 18. | Solve for x in 5 - x = 7 |

| 19. | Show "a quarter to 6 o'clock" on the clockface below. | 20. | Amos scored the following marks in different series of tests; 18, 11, 22, 9, and 15. Workout his range of the marks scored. |
|---|---|---|---|
| |  | | |
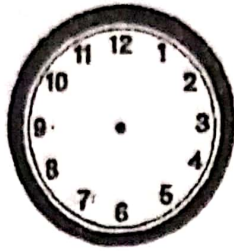
## SECTION B: (60 MARKS)

**21.** In a school football team, 13 members play with the right leg(R), 10 members use the left leg (L), some team members use both legs while 3 do not play at all. Use the information to complete the venn diagram below.

$\Sigma = 22$

n(R) = 13    n(L) = 10

13-m    m    10-m

3
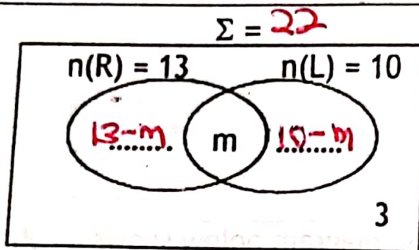
| (a) | How many team members play with both legs given that the team consists of 22 members? | (b) | How many members play with only one leg? |
|---|---|---|---|
| | $13-m+m+10-m+3 = 22$ | | $(13-m) + (10-m) \mid m = 4$ |
| | $13+10+3+m-m-m = 22$ | | $(13-4) + (10-4)$ |
| | $26 + 0 - m = 22$ | | $9 \quad + \quad 6$ |
| | $26-26-m = 22-26$ | | $15 \text{ members}$ |
| | $0 - m = -4 \mid m=4$ | | |
| | $\dfrac{+m}{+1} = \dfrac{+4}{+1}$ | | |
| | | | (6 marks) |

**22.** Given the numeral 483.05

| (a) | Write the place value of 4. | (b) | Find the value of 8 and the value of 5. |
|---|---|---|---|
| | 4 8 3 . 0 5 <br> H T O . T H <br> 4 ⟹ hundreds. | | $8 \Rightarrow (8 \times 10) = 80$ <br> $5 \Rightarrow 5 \times \dfrac{1}{100} = 0.05$ |
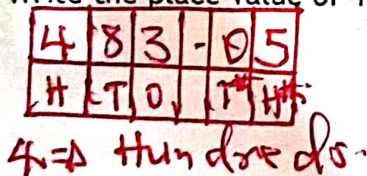
CamScanner

**(c)** Find the sum of value of 8 and the value of 5.

$$Sum \quad 80.00$$
$$+ \quad \phantom{0}0.05$$
$$\overline{\phantom{Sum} \quad 80.05}$$

**23.** Town V and town W are 200km apart, if a truck driver takes 2½ hours to drive from town V to town W, find the speed at which the truck moves.

$$D = 200 km$$
$$T = 2\tfrac{1}{2} hrs$$
$$S = \left(200 \div 2\tfrac{1}{2}\right) km/hr.$$
$$= \left(200 \div \tfrac{5}{2}\right) km/hr.$$
$$= \left(\overset{40}{\cancel{200}} \times \tfrac{2}{\cancel{5}}\right) = 80 km/hr$$

**(5 marks)**

**(b)** Jamil covered 320 metres at speed of 40m/s. How long did the journey take?

$$S = 40 m/s$$
$$D = 320 m$$
$$T = \frac{\overset{8}{\cancel{320}} m}{\cancel{40} m/s}$$
$$T = 8 sec.$$

**(5 marks)**

**24.** In a class of 80 pupils, $\frac{3}{5}$ are girls and the rest are boys.

**(a)** Find the fraction for boys.

| Girls | Boys | |
|---|---|---|
| $\frac{3}{5}$ | $\frac{5}{5} - \frac{3}{5}$ | ∴ fraction of boys is $\frac{2}{5}$ |
| | $\frac{2}{5}$ | |

**(b)** How many girls are in the class?

$$\underline{No \text{ of } girls}$$
$$\tfrac{3}{5} \times \overset{16}{\cancel{80}} \text{ pupils}$$
$$(3 \times 16) \text{ pupils}$$
$$48 \text{ pupils (girls).}$$

**(c)** If ¼ of the boys do not have full school uniform and $\frac{1}{3}$ of the girls have full school uniform, how many pupils have full school uniform in the class?

without uniform:
$$= \tfrac{1}{4} \text{ of } (80-48)$$
$$\tfrac{1}{4} \times \overset{8}{\cancel{32}}$$
$$= 8 \text{ boys.}$$
Boys with sch. uniform

$(32-8)$
$$= 24 \text{ boys}$$

Girls:
$$\tfrac{1}{3} \text{ of } 48$$
$$\tfrac{1}{3} \times \overset{16}{\cancel{48}}$$

16 girls had sch. un.

No of pupils having full uniform:
$$= (24 + 16)$$
$$= 40 \text{ pupils.}$$

**(6 marks)**

| 25. | Shamirah went shopping on Idi with sh. 50,000 and bought the following items. |
|---|---|

2kg of meat at sh. 12000 @ kg
1½ kg of rice at sh. 4000 @ kg
2.5 litres of cocacola soda at sh. 5,500.
500g of onions at sh. 3600 per kilogram.

| (a) | How much money did she pay altogether? | (b) | If she was given a discount of 10%, how much change did she get? |
|---|---|---|---|

(a)
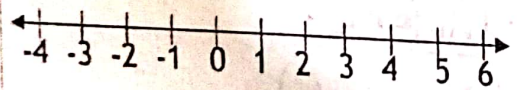Meat

12 000
$\times$ 2
6h24000

(5 marks)

| 26. | Study the figure below and use it to answer the questions that follow. |
|---|---|

18m
13m
16m
◄6m►
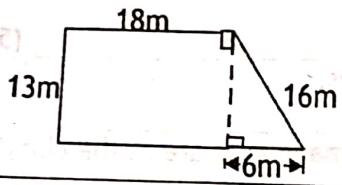
| (a) | Work out its area. | (b) | Work out the distance around the figure above. |
|---|---|---|---|

(4 marks)

| 27. | (a) Simplify the following using a number line. | (b) | -5 - ⁻2 |
|---|---|---|---|

-3 + ⁺7

-4 -3 -2 -1 0 1 2 3 4 5 6

-6 -5 -4 -3 -2 -1 0 1 2 3
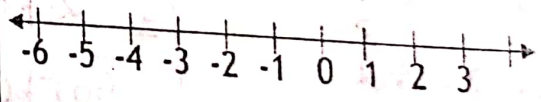
| 28. | Matayo deposited sh. 600,000 in a SACCO that offers an interest rate of 3% p.a. If he withdrew his money after 5 years, | | |
|---|---|---|---|
| (a) | How much interest did he receive? | (b) | Calculate the total amount of money he received after 5 years. |
| | | | (4 marks) |

| 28. | (a) Using a ruler, a pencil and a pair of compasses, construct rectangle HENS where line HE = 6.5cm and line EN = 4cm. |
|---|---|
| (b) | Measure diagonal ES. |
| | (5 marks) |

| 30. | Two bells rang at intervals of 15 minutes and 25 minutes. If they ring together at 11:45a.m; | | |
|---|---|---|---|
| (a) | After how long will they ring together again? | (b) | At what time will they ring together again? |
| | | | (5 marks) |

| | |
|---|---|
| **31.** | Mercy is thrice as old as Peter. If the difference in their age is 18 years, |
| **(a)** How old is Peter? | **(b)** How old was Mercy 12 years ago. |

(5 marks)

**32.** The information below shows the number of animals on Mr. Alinethu's farm.

Cows $\Rightarrow$ 13

Goats $\Rightarrow$ 16

Others = 7

Using a radius of 3.5cm, construct a pie chart showing the above information.

(6 marks)

END