



NATIONAL TEACHING COUNCIL  
GHANA TEACHER LICENSURE EXAMINATION (GTLE)



REG. Number	GITLE/N3C10460/22
Centre Name	WA
Signature	

Date: 16-12-2022

Duration: 1hr 30min

PAPER III

NUMERACY

INSTRUCTION

This paper consists of two parts, A and B. **Part A** consists of 30 multiple-choice questions with four options lettered A to D. Read and evaluate all four answer choices before circling the correct or best answer. **Part B** consists of THREE questions to be answered on the paper.

	Score
PART A: Multiple-Choice questions	
PART B: Essay	1. 2. 3.
Total Score	

**PART A**  
(30 marks)

**Answer all the questions**

This part consists of 30 multiple-choice questions with four options lettered A-D.  
Read and evaluate all four answer choices before circling the correct or best  
answer.

1. When twice a certain number is subtracted from four, the result is the same as twice the number. What is the number?
  - A. 1
  - B. 2
  - C. 3
  - D. 4
2. What is the value of the underlined digit in the amount, GH¢555.55?
  - A. GH¢0.05
  - B. GH¢0.50
  - C. GH¢5.00
  - D. GH¢50.00
3. The following scores were obtained by ten learners in a class test: 8, 5, 6, 4, 6, 7, 9, 8, 8 and 5. What is the range of the scores?
  - A. 4
  - B. 5
  - C. 6
  - D. 8
4. If an object weighs 40.24kg, what is the mass of this load in grams?
  - A. 402.0g
  - B. 402.4g
  - C. 4024g
  - D. 40240g
5. A pool with a rectangular base 10 metres by 3 metres is 2 metres deep. What is the volume of water in the pool when it is half full?
  - A. 30 m<sup>3</sup>
  - B. 40 m<sup>3</sup>
  - C. 60 m<sup>3</sup>
  - D. 80 m<sup>3</sup>
6. A Red Cross Society in Redeemer JHS has 80 members. Given that 30 of the members are males, express the number of females as a ratio of the number of males.
  - A. 3:5
  - B. 3:8
  - C. 5:3
  - D. 8:3

7. Out of 60 learners in a class, 36 are boys. If a prefect is to be selected at random from the class, what is the probability that a girl is selected?

- A.  $\frac{1}{36}$
- B.  $\frac{2}{3}$
- C.  $\frac{2}{5}$
- D.  $\frac{3}{11}$

8. How many hours will it take a motorist to cover 160 kilometres travelling at an average speed of 80 km every hour?

- A. 2 hours
- B. 4 hours
- C. 6 hours
- D. 8 hours

9. A numeracy examination paper starts at 9:45 a.m. If the duration of the paper is 2 hours 30 minutes, at what time is the examination expected to end?

- A. 12.10 p.m.
- B. 12.15 p.m.
- C. 12.30 p.m.
- D. 12.45 p.m.

10. When 3 is added to 5 times a certain number and the sum is multiplied by 4, the result is 72. What is the number?

- A. 3
- B. 4
- C. 5
- D. 6

11. Given the data: 3, 4, 4, 4, 5, which of the following statements is true?

- A. mean = mode = median
- B. mean > mode > median
- C. mode > mean > median
- D. mode > median > mean

12. Three towns, Oselkrom, Mensakrom and Mosikrom perform their funeral rites at every 7 days, 14 days, and 28 days intervals respectively. If they all held their funeral rites on 12<sup>th</sup> March 2022, on which of the following dates did all the three towns hold their funeral rites on the same day?

- A. 2<sup>nd</sup> April 2022
- B. 9<sup>th</sup> April 2022
- C. 16<sup>th</sup> April 2022
- D. 23<sup>rd</sup> April 2022

13. Kofi spent  $\frac{1}{3}$  of his pocket money on books which costed GH¢30.00. How much was his pocket money?
- A. GH¢90.00
  - B. GH¢60.00
  - C. GH¢120.00
  - D. GH¢100.00
14. Sumaila is twice as old as his daughter Asana. In the next five years the sum of their ages would be 85 years. How old is Asana?
- A. 25 years
  - B. 30 years
  - C. 35 years
  - D. 55 years
15. A contingent of 75 athletes has 15 more boys than girls. If a leader is to be selected from the contingent, what is the probability that a girl is selected?
- A.  $\frac{1}{3}$
  - B.  $\frac{2}{3}$
  - C.  $\frac{3}{5}$
  - D.  $\frac{4}{5}$
16. A square-shaped garden of side 15 metres has a gate 1.5 metres wide. If a metre of wire mesh costs GH¢10.00, how much money would be needed to buy wire to fence round the plot?
- A. GH¢580.00
  - B. GH¢585.00
  - C. GH¢600.00
  - D. GH¢615.00
17. A farmer wants to decongest his three cattle ranches such that each ranch has 320 cattle. If the first ranch has 486 cattle, the second ranch has 361 cattle, how many cattle are in the third ranch?
- A. 113
  - B. 115
  - C. 124
  - D. 133
18. A cargo truck can convey a load of 10,000 kg. If it is conveying some bags of cement each weighing 50 kg, which of the following expressions can be used to determine the number of cement bags it can convey at a time?
- A.  $10,000 - 50$
  - B.  $10,000 + 50$
  - C.  $10,000 \times 50$
  - D.  $10,000 \div 50$

19. During a choral festival attended by 12 choral groups, each group's performance was 10 minutes followed by a 5-minute break. If the programme started at 6:25 p.m., what time will the last group's performance end?
- A. 09:20 p.m.
  - B. 10:20 p.m.
  - C. 11:40 p.m.
  - D. 12:40 a.m.
20. There were 100 packs of yoghurt to be shared equally among 16 families. If each family received 6 whole packs of yoghurt, what percentage of the whole packs were not shared?
- A. 4%
  - B. 16%
  - C. 25%
  - D. 96%
21. Ten 10 pieces of cloth are to be shared among the children in an orphanage. If each child received a half piece of the cloth, how many children received a share of the cloth?
- A. 5
  - B. 10
  - C. 12
  - D. 20

The table below gives the number of JHS learners who voted for Linda and Mercy during the election of the girls' prefect of a school. Use the information to answer questions 22 to 24.

CANDIDATE	JHS 1	JHS 2	JHS 3
Linda	23	20	37
Mercy	15	35	50

22. How many more votes did the winner get than the loser?
- A. 9
  - B. 32
  - C. 20
  - D. 17
23. Out of those who voted in JHS 2, what fraction voted for Linda?
- A.  $\frac{7}{35}$
  - B.  $\frac{1}{9}$
  - C.  $\frac{4}{11}$
  - D.  $\frac{7}{11}$

24. Which one of the following graphs is the most appropriate for representing the given data?

- A. Bar graph
- B. Histogram
- C. Line graph
- D. Stem and leaf plot

25. A statue is 120 metres high. A new statue built has a height which is 25% shorter than that of the old statue. What is the height of the new one?

- A. 95 m
- B. 90 m
- C. 75 m
- D. 100 m

26. A fishmonger bought a basket of fish at GH¢900.00. How much should he sell this basket of fish to get a profit of 30%?

- A. GH¢530.00
- B. GH¢270.00
- C. GH¢1,300.00
- D. GH¢1,170.00

27. A roadside measuring 4.55 km of weeds is to be cleared by some workers. If each worker is to weed 650 m, how many workers would be employed to do the job?

- A. 4
- B. 5
- C. 6
- D. 7

28. A teacher calculated the mean score of 25 learners in her class as 4. She then added five marks to the scores of each learner. What will be the new mean?

- A. 4
- B. 5
- C. 9
- D. 20

The marks scored by a group of pupils in a class test were 6, 7, 6, 9, 7, 8, 6. Use this information to answer the questions 29 and 30.

29. What is the median mark?

- A. 6
- B. 7
- C. 8
- D. 9

30. What is the mean mark?

- A. 6
- B. 7
- C. 8
- D. 9

### QUE 1

Let the number be  $a$   
 Twice the number =  $2a$

Twice the number is  
subtracted from 4  
 $\Rightarrow 4 - 2a$

$$4 - 2a = 2a$$

$$4 = 2a + 2a$$

$$4 = 4a$$

$$\frac{4}{4} = \frac{4a}{4}$$

$$1 = a$$

$$a = 1$$

Hence, the number is 1

ANS A

### QUE 2

GH¢ 5 5 5 · 5 5  
 hund. tens ones

50

GH¢ 50.00

ANS D

Compiled by  
 (051851 + 50)  
 SIR KING

QUE 3  
 8, 5, 6, 4, 6, 7, 9, 8, 8 and 5

$$\begin{aligned}\text{Range} &= \text{The largest no} - \text{The smallest no.} \\ &= 9 - 4 \\ &= 5\end{aligned}$$

Therefore, the Range is 5

ANS B

QUE 4

$$40.24 \text{ kg}$$

Convert 40.24kg to grams.

$$\begin{array}{l} 1 \text{ kg} = 1000 \text{ g} \\ 40.24 \text{ kg} = ? \end{array}$$

$$\frac{40.24 \text{ kg}}{1 \text{ kg}} \times 1000 \text{ g}$$

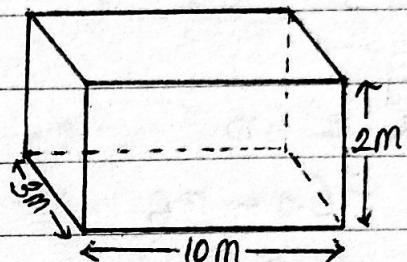
$$\frac{40.24 \text{ kg}}{1 \text{ kg}} \times 1000 \text{ g}$$

$$40240 \text{ g.}$$

Compiled by SIR KUNAL  
(205181502)

QUE 5

not drawn to scale



$$\text{Volume} = L \times W \times H$$

$$\begin{aligned} &= 10 \times 3 \times 2 \\ &= 60 \text{ m}^3 \end{aligned}$$

$$\text{Half full} = \frac{60}{2} = 30 \text{ m}^3$$

ANS A

QUE 6

males	females
30	x

$$30 + x = 80$$

$$x = 80 - 30$$

$$x = 50$$

Females : Males

$$\begin{array}{r:r} 50 & : 30 \\ 5 & : 3 \end{array}$$

(2)

ANS C

QUE 7

<u>No of boys</u>	<u>No of girls</u>
36	a

$$36 + a = 60$$

$$a = 60 - 36$$

$$a = 24$$

$$P(G) = \frac{n(G)}{n(S)} = \frac{24}{60}$$

$$P(G) = \frac{2}{5}$$

ANS CQUE 8

Average speed =  $\frac{\text{total distance}}{\text{total time}(\bar{t})}$

$$80 = \frac{160}{\bar{t}}$$

~~$$\frac{80}{1} = \frac{160}{\bar{t}}$$~~

$$\frac{80\bar{t}}{80} = \frac{160}{80}$$

$$\bar{t} = 2 \text{ hours}$$

ANS A

(3)

QUE 9

Hr	min
9	45
2	30
<hr/>	<hr/>
12	15

Hence, it will end at 12:15 pm

ANS B

QUE 10

let the no be K

5 times the no =  $5K$ 

3 added to 5-times the no

$$\Rightarrow 5K + 3$$

sum is multiplied by 4

$$\Rightarrow 4(5K + 3)$$

$$4(5K + 3) = 72$$

$$20K + 12 = 72$$

$$20K = 72 - 12$$

$$20K = 60$$

$$\frac{20K}{20} = \frac{60}{20}$$

$$K = 3$$

ANS A.

QUE 11

3, 4, 4, 4, 5

We need to find the mode, mean and median.

$$\text{Mode} = 4$$

Mode is the number that appears most in the distribution.

Mean

$$\frac{3+4+4+4+5}{5} = \frac{20}{5} = 4$$

$$\text{Median} = 4$$

Median is the middle number after the data has been arranged in order of magnitude.

In Conclusion,

$$\text{Mean} = \text{Mode} = \text{Median}$$

Ans A

Compiled by S.K. KUMAR  
(0541581502)

QUE 12

Let's find the L.C.M of 7, 14 and 28 days

$$\text{The L.C.M} = 28 \text{ days}$$

⇒ The 3 towns will hold their funeral rites on the same day after 28 days.

Let's calculate 28 days after 12th March.

March

12 13 14 15 16

17 18 19 20 21

22 23 24 25 26

27 28 29 30 31

April

1 2 3 4 5

6 7 8 9 → Ans

④

9th April, 2022 Ans B

QUE 13

Kofi spent  $\frac{1}{3}$  of his pocket money on books which costed GH¢ 30.00. How much was his pocket money?

- A. GH¢ 90.00      B. GH¢ 60.00
- C. GH¢ 120.00      D. GH¢ 100.00

Soh

$$\text{let his pocket money} = x$$

Amount spent on books

$$\frac{1}{3}x$$

Amount spent on = Cost of the  
books                                    books

$$\frac{1}{3}x = 30$$

Multiply each term by the  
L.C.M (ie 3)

$$3\left(\frac{1}{3}x\right) = 3(30)$$

$$3\left(\frac{1}{3}x\right) = 3(30)$$

$$x = 90$$

$$x = \text{GH¢ } 90.00$$

ANS A

QUE 14Somaila          Asana

$$2x$$

$$x$$

In the next 5 yearsSomaila

$$2x+5$$

Asana

$$x+5$$

In the next five (5) years  
the sum of their ages = 85

$$(2x+5) + (x+5) = 85$$

$$2x+5 + x+5 = 85$$

$$3x + 10 = 85$$

$$3x = 85 - 10$$

$$3x = 75$$

$$\underline{3x} = \underline{75}$$

$$x = 25$$

(Cross multiplied by 3)  
Hence, Asana is 25 years old.

ANS A.

### QUE 15

We need to find the number of boys and number of girls in the contingent.

$$\begin{array}{l} \text{no of girls} \\ x \end{array} \quad \begin{array}{l} \text{no of boys} \\ x + 15 \end{array}$$

There are 75 athletes

in the contingent

i.e. the no of boys + no of girls = 75

$$(x) + (x + 15) = 75$$

$$x + x + 15 = 75$$

$$2x + 15 = 75$$

$$2x = 75 - 15$$

$$2x = 60$$

$$\frac{2x}{2} = \frac{60}{2}$$

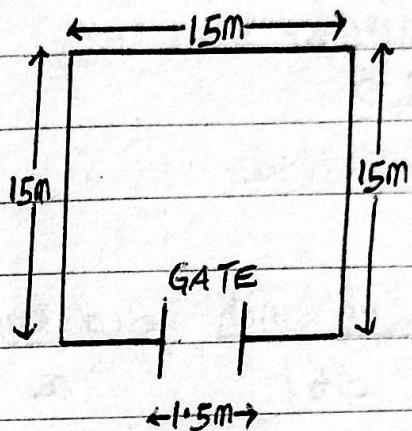
$$x = 30$$

The number of girls in the contingent is 30

$$P(G) = \frac{n(G)}{n(S)} = \frac{30}{75} = \frac{2}{5}$$

ANS B

### QUE 16



Perimeter of the square garden

$$15m + 15m + 15m + (15m - 1.5m)$$

$$45m + 13.5m$$

$$58.5m$$

cost of wire mesh needed  
to fence round the plot

If 1m wire mesh costs GH¢10.00,

we need to calculate for the  
cost of 58.5m wire mesh.

$$\begin{aligned} &\Rightarrow GH¢10 \times 58.5m \\ &= GH¢585.00 \end{aligned}$$

ANS B

### QUE 17

Total no of cattle in the three ranches

$$\Rightarrow 3 \times 320 \\ = 960 \text{ cattle}$$

<u>1st Ranch</u>	<u>2nd Ranch</u>	<u>3rd Ranch</u>
486	361	a

$$486 + 361 + a = 960$$

$$847 + a = 960$$

$$a = 960 - 847$$

$$a = 113$$

Hence, the number of cattle in the 3rd Ranch is 113.

ANS A

Compiled by JPR

(2014/15)

### QUE 18

Total no of loads conveyed by the truck  
 $= 10,000 \text{ kg}$

Weight of a cement bag  
 $= 50 \text{ kg}$

No of cement bags that can be conveyed by the truck

$$= \frac{10,000 \text{ kg}}{50 \text{ kg}}$$

$$= \frac{10,000 \text{ kg}}{50 \text{ kg}}$$

$$= 10,000 \div 50$$

ANS D

### Q1E 19

Duration of Performance for each group  
 $= 10 \text{ minutes}$

Duration of break for each group  
 $= 5 \text{ minutes}$

Duration of performance for the 12 groups

$$= 12 \times 10 \text{ minutes}$$

$$= 120 \text{ minutes}$$

Duration of break for the 12 people

$$= 12 \times 5 \text{ minutes}$$

$$= 60 \text{ minutes}$$

Duration of performance from the first group to the last group

$$= 120 \text{ mins} + (60 \text{ mins} - 5 \text{ mins})$$

$$= 120 \text{ mins} + 55 \text{ mins}$$

$$= 175 \text{ minutes}$$

NB: We won't include the 5mins break for the last group since we are to find when the last group's performance will end.

Convert 175 minutes to hours and minutes  
 ie (2 hours 55 minutes)

Compiled by SIK KUNG (0541581502)

	Hrs	mins
+ 6		25
2		55
	9	20

Hence, the last group's performance will end at 9:20 PM

ANS A

### QUE 20

Total no of packs to be shared  
 = 100 packs

No of families = 16

No of yoghurt packs shared  
 =  $16 \times 6$  packs  
 = 96 packs.

Remaining packs  
 $100 - 96$   
 4 packs

Express 4 packs as a percentage of 100 packs

$$\frac{4}{100} \times 100$$

$$\frac{4}{100} \times 100$$

4% Ans A

### QUE 21

Total no of clothes  
 10 pieces

No of clothes received by each child  
 =  $\frac{1}{2}$  piece

No of children who received the cloth.

$$\frac{10}{\frac{1}{2}} = 10 \div \frac{1}{2} = 20$$

Ans D

Compiled by SIR KENG  
 (0541581500)

QUE 22

no of votes received by Linda

$$= 23 + 20 + 37$$

$$= 80$$

no of votes received by Mercy

$$= 15 + 35 + 50$$

$$= 100$$

NB: Mercy received more votes than Linda

no of votes Mercy received than Linda

$$100 - 80$$

$$20$$

ANS C

(054/158/50)  
Compiled by SIR KUNJ

(10)

QUE 23

Total no of votes in JHS 2

$$= 20 + 35$$

$$= 55 \text{ votes}$$

Fraction of students who voted for Linda

$$= \frac{20}{55} = \frac{4}{11}$$

NB: Always reduce the fraction to its lowest form.

ANS C

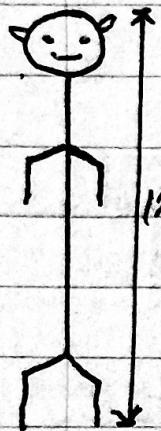
QUE 24

Bar Graph

ANS A

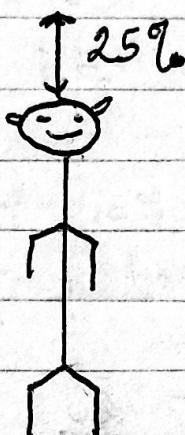
### QUE 25

old statue



120m

new statue



Remaining Percentage height  
 $100\% - 25\% = 75\%$

Height of the new statue  
75% of 120m

$$\frac{75}{100} \times 120 \text{ m}$$

90m

Hence, the height of the new statue is 90m

Ans B

### QUE 26

$$\begin{aligned}\text{Cost Price (CP)} &= \text{GH¢ 900} \\ \text{Selling Price (SP)} &= 100\% + 30\% \\ &= 130\%\end{aligned}$$

$$\begin{array}{rcl}100 & \longrightarrow & \text{GH¢ 900} \\ 130 & \longrightarrow & ?\end{array}$$

$$\frac{130}{100} \times \text{GH¢ 900}$$

GH¢ 1170

Therefore, he has to sell the basket of fish at GH¢ 1170.00 get a profit of 30%.

ANS D

Compiled by  
SIP IRMG (0541581502)

### QUE 28

$$\bar{x}_{25} = \frac{s_{25}}{25}$$

$$\bar{x}_{25} = \frac{s_{25}}{25}$$

$$4 = \frac{s_{25}}{25}$$

$$\bar{x}_{25} = \frac{225}{25} = 9.$$

~~$$\frac{4}{1} = \frac{s_{25}}{25}$$~~

$$4 \times 25 = s_{25}$$

$$100 = s_{25}$$

$$s_{25} = 100$$

Hence, the new mean score is 9.

Ans C

1 km

4550 m

No of workers that would be employed

4550m  
650m

4550m = 7  
650m

Ans D

Compiled by SP LING (05185141502)

⇒ The sum of the original marks of the 25 students was 100.

+ To find the sum of the new marks, we need to add 5 marks each to their original marks.

$$\Rightarrow [100 + 5(25)]$$

$$100 + 125 = 225$$

The sum of the new marks after adding 5 marks each to their original marks of the students is 225.

QUE 29

6, 7, 6, 9, 7, 8, 6

Median Mark

6 6 6 7 7 8 9  
 ↓  
 Median Mark

NB: Median Mark is the middle number in the distribution after the data has been arranged in order of magnitude (ie either in ascending or descending order)

ANS B

QUE 30

6, 7, 6, 9, 7, 8, 6

mean

$$\frac{6+7+6+9+7+8+6}{7}$$

$$\frac{49}{7} = 7$$

ANS B

Solution to GILE NUMERACY 22

1A	11 A	21 D
2D	12 B	22 C
3B	13 A	23 C
4D	14 A	24 A
5A	15 B	25 B
6C	16 B	26 D
7C	17 A	27 D
8A	18 D	28 C
9B	19 A	29 B
10A	20 A	30 B