MATHEMATICS

Monitoring Learner Achievement at Primary School Level in Kenya

Class 8

GLOBAL PARTNERSHIP *for* EDUCATION

REPUBLIC OF KENYA
MINISTRY OF EDUCATION

KENYA VISION **2030**

THE WORLD BANK
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LEARNERS NAME: _____

LEARNER'S ADMISSION NO. _____

INSTRUCTIONS TO LEARNERS

1. This paper consists of **50** Questions.
2. Answer all the questions by circling / ticking the correct answer.
3. You have **2 hours 30 minutes** to answer **all** the questions in this paper.

FOR OFFICIAL USE ONLY

SCORING GRID (50 marks)

QUESTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Mark (s)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Score															

QUESTION	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Mark (s)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Score															

QUESTION	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Mark (s)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Score															

QUESTION	46	47	48	49	50	TOTAL SCORE
Mark (s)	1	1	1	1	1	**50**
Score						

1. What is two hundred million three hundred thousand and twenty five in symbols?
   - A. 203000025
   - B. 200003025
   - C. 200030025
   - D. 200300025

2. What is the total value of digit 5 in 4507896?
   - A. 5000000
   - B. 500000
   - C. 50000
   - D. 5000

3. Which one of the following statements is correct?

   - A. $0.25 < \frac{1}{4}$

   - B. $1.25 > 1\frac{1}{4}$

   - C. $3.85 > 3\frac{3}{4}$

   - D. $0.75 > \frac{3}{4}$

4. What is the value of $48 \div 8 + 4(10 - 4)$?

   - A. 24
   - B. 30
   - C. 60
   - D. 62

5. Ntimama had $24\frac{3}{4}$ kg of meat in his butchery. He sold $\frac{1}{3}$ of the mass of the meat and took $1\frac{1}{4}$ kg of meat to his home What was the fraction of meat that remained in the butchery?

A. $7\frac{5}{6}$

B. $9\frac{1}{2}$

C. $15\frac{1}{4}$

D. $16\frac{1}{2}$

6. What is the value of $1\frac{5}{8} - \frac{3}{8}$ of $1\frac{1}{2}$?

A. $1\frac{1}{16}$

B. $1\frac{7}{8}$

C. $1\frac{7}{16}$

D. $\frac{1}{16}$

7. What is the next number in the pattern 37, 41, 43, 47, 53, ___?
A. 55
B. 57
C. 59
D. 61

8. A certain county has 1432265 men. The number of women is twice the number of men. The total number of children is the sum of men and women. What is the population of the people in the county?
A. 4296795
B. 5729060
C. 7161325
D. 8593590

9. What is the value of $\frac{2.4 \times 18.3}{3.6}$?

    A.   122
    B.   12.2
    C.   1.22
    D.   0.0122

10. A farmer harvested 125 bags of maize. The farmer remained with 35 bags and sold the rest at sh 3 300 per bag. How much money did the farmer get from the sale of maize?

    A.   sh 115 500
    B.   sh 297 000
    C.   sh 412 500
    D.   sh 528 000

11. What is 461.9950 rounded off to 2 decimal places?

    A.   461.00
    B.   461.99
    C.   462.00
    D.   462

12. Three bells ring at intervals of 6, 8 and 16 minutes respectively. They rang together at 8.20 a.m. How long will the bells take to ring together next?

    A.   68 minutes
    B.   48 minutes
    C.   30 minutes
    D.   2 minutes

13. What is $\sqrt{784} + 6^2$?

    A.   820
   B.   790
    C.   64
    D.   40

14. Mwangaza has a rectangular vegetable garden measuring 15 m by 12 m. He fenced it using 3 strands of barbed wire. What was the length of the wire used to fence the garden?
    A.   54 m
    B.   81 m
    C.   162 m
    D.   540 m

15. A farmer transported 2.6 tonnes of beans to the market. The farmer used a vehicle that carries 650 kg of beans per trip. How many trips did the farmer make?
    A.   400
    B.   250
    C.   40
    D.   4

16. The graph below represents a pupil's journey from home to the market and back.
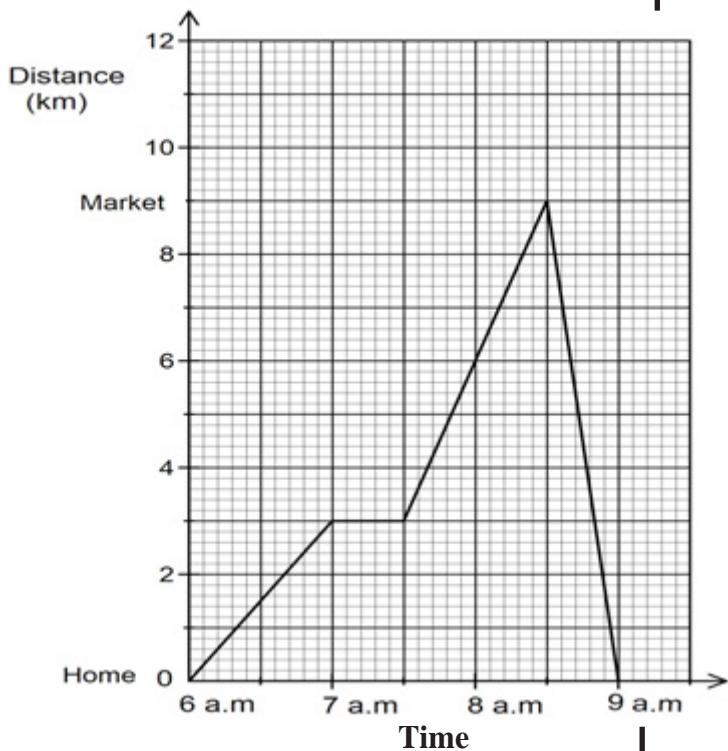
What is the average speed of the pupil for the whole journey?
    A.   6 km/h
    B. $4\frac{1}{2}$ km/h
    C.   3 km/h
    D. $2\frac{1}{4}$ km/h

17. Adhiambo's entertainment hall has a rectangular floor measuring 30 m by 24 m. She wants to cover it with square tiles. Each tile has a surface area of 900 cm². The tiles are packed in cartons each containing ten tiles. How many cartons of tiles does she require?

    A.   8000
    B.   800
    C.   80
    D.   8

18. A tourist travelled from Nairobi to Mombasa by train. The train left Nairobi at $1345\ h$ and took $5\frac{1}{2}$ hours to arrive in Mombasa. What time did the train arrive in Mombasa in 12 hour clock system?

    A.   7.15 a.m
    B.   7.15 p.m
    C.   0715 h
    D.   1915 h

19. The figure below shows a solid wooden block of diameter 14 cm and length 30 cm.
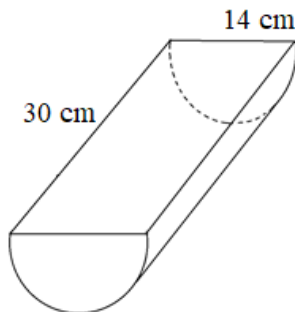
The block was wrapped with a polythene material. What is the total area of the material used? (Take $\pi = \frac{22}{7}$)

    A.   814 cm²
    B.   1 234 cm²
    C.   1 388 cm²
    D.   2 356 cm²

20. The figures below show tin X and tin Y. Tin X has a volume of 25 cm³. Tin Y has a base area of 25 cm² and a height of 45 cm.

45 cm

25cm³

Tin X
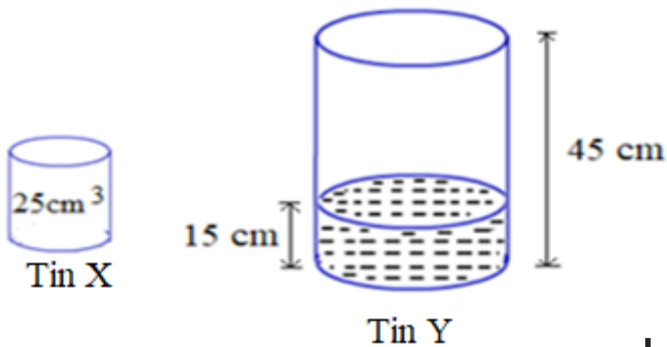
15 cm

Tin Y

Tin Y contains water to a depth of 15 cm. How many tins X full of water are required to fill tin Y?
A.   60
B.   45
C.   30
D.   15

21. Bidii primary school has a circular assembly ground with a diameter of 9.8 m. The environmental club members planted grass on the assembly ground leaving a circular part of diameter 2.8 m around the flag post. What was the area of the assembly ground covered with grass?
(Take $\pi = \frac{22}{7}$)
A.   6.16 m²
B.   38.5 m²
C.   69.3 m²
D.   75.46 m²

22. A triangular table mat has an area of 510 cm². The height of the mat is $25\frac{1}{2}$ cm. What is the length of the base?
A.   20 cm
B.   40 cm
C. $40\frac{4}{5}$ cm
D. $72\frac{6}{7}$ cm

23. A rectangular water tank measures 3 m long, 2 m wide and 0.8 m high. The tank is $\frac{3}{4}$ full of water. What is the capacity of water in the tank in litres?
    A.   3.6
    B.   1200
    C.   3600
    D.   4800

24. Halima bought 17 bottles of hand sanitizer of 250 ml each. What is the total amount of sanitizer that Halima bought in litres?
    A.   0.00425
    B.   0.0425
    C.   0.425
    D.   4.25

25. Juma used a 13 m long ladder to climb a wall. The top of the ladder touched the wall at a vertical height of 12 m. Which one of the following statements, shows how Juma can determine the distance between the foot of the wall and the foot of the ladder?
    A. $\sqrt{13^2 + 12^2}$
    B. $\sqrt{13^2 - 12^2}$
    C. $13^2 + 12^2$
    D. $13^2 - 12^2$

26. In the triangle shown below, construct a perpendicular line from point R to meet line PQ at point W.
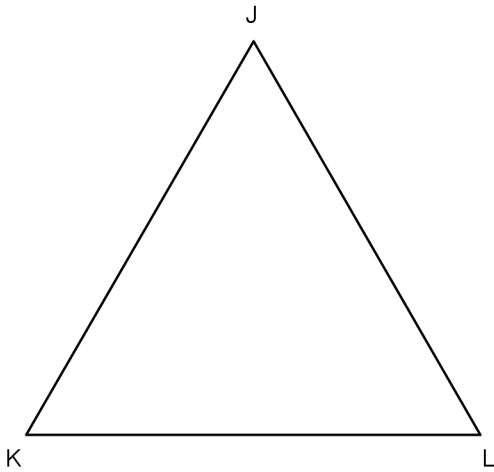
R

P

Q
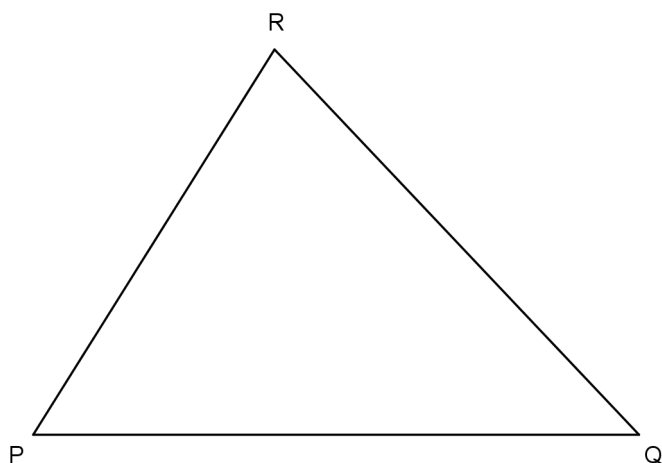
What is the measure of line WQ?
- A. 3.1 cm
- B. 4.9 cm
- C. 5.1 cm
- D. 7.0 cm

27. Which one of the following statements is correct about the properties of isosceles triangles?
- A. The lengths of all sides are equal
- B. The size of one angle is 90^0.
- C. All angles are not equal in size
- D. The lengths of two sides are equal

28. The figure below shows a triangle JKL.

Construct a circle passing through points J, K and L. What is the measure of the radius of the circle?

A. 2.0 cm
B. 3.5 cm
C. 4.0 cm
D. 7.0 cm

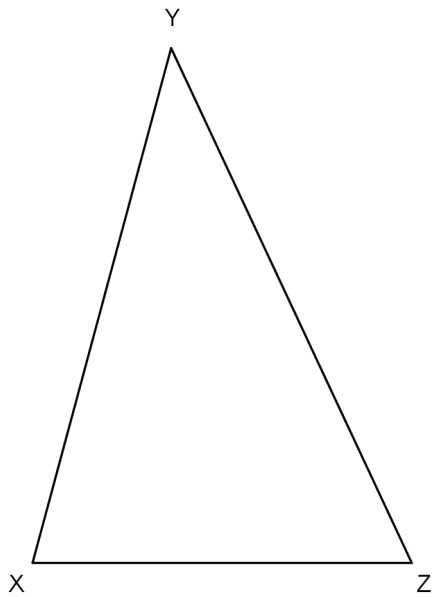**29.** The figure below shows an incomplete stack of a cuboid made of cubes.
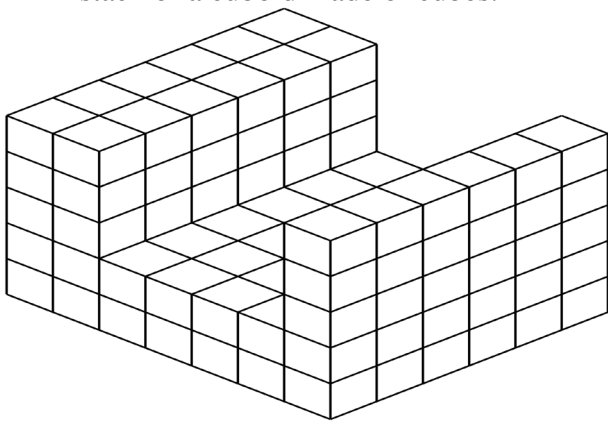
How many more cubes are needed to complete the cuboid?

A. 210
B. 138
C. 120
D. 72

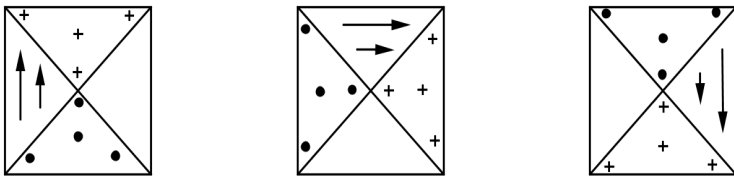**30.** The figure below shows triangle XZY.
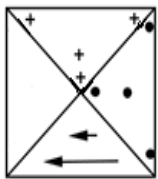

What is the measure of angle **XYZ**?

A. 140^0

B. 75^0

C. 65^0

D. 40^0

31. The figures below show a pattern.
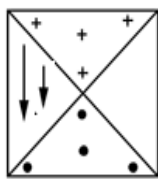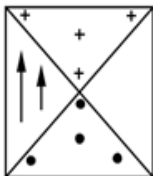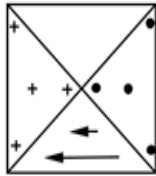

What is the next shape in the pattern?

A.   B.

C.   D.

32. What is the value of $4c - 2a + 2b$, given that $a = 3$, $b = 1$ and $c = 2a$?

A. 20
B. 16
C. 7
D. 4

33. What is $10(5r - 2h) + r + 24h$ in the simplest form?

A. $6r + 4h$
B. $51r + 22h$
C. $51r + 4h$
D. $51r - 4h$

34. Mercy, John and Peter shared some mangoes. Mercy got x mangoes and John got $x + 2$ mangoes. Peter got twice the sum of mangoes Mercy and John got. Which one of the following algebraic expressions shows the total number of mangoes shared?

A. $6x + 6$
B. $4x + 4$
C. $2x + 2$
D. $4x + 6$

35. What is the value of x in

$$2(4x + 2) = 4(x + 3)?$$

A. 2
B. 4
C. $\dfrac{1}{3}$
D. $1\dfrac{1}{3}$

36. A trader bought 50 cups for sh 10 000. He sold all the cups making a profit of 10 %. What was the selling price of each cup?

A. sh 1 000
B. sh 220
C. sh 200
D. sh 180

37. The marked price of a bicycle is sh 6 500. Ahmed bought the bicycle after being allowed a discount of 8 %. How much money did he pay for the bicycle?

A.   sh 7 020
B.   sh 6 080
C.   sh 5 980
D.   sh 520

38. John bought the following items from a supermarket:

(i)   *2 kg of sugar @ sh 110 per kg*

(ii) $2\frac{1}{2}$ *kg of maize flour @ sh 70 per kg*

(iii)   *2 kg pishori rice @ sh 150 per kg*

(iv)   *4 packets of milk @ sh 30*

(v)   *3 bars of soap for sh 252*

He paid for all the items using 2-one thousand shilling notes. What balance did he receive?

A.   sh 429
B.   sh 813
C.   sh 933
D.   sh 1 067

39. A salesman is paid a basic salary of sh 15 000 every month plus a 5% commission on the value of goods sold above sh 40 000. In one month, he earned a total of sh 24 000. What was the total sales of goods that month?

A.   sh 140 000
B.   sh 180 000
C.   sh 204 000
D.   sh 220 000

40. The table below shows commission charges for sending money through a post office using money order.

Value of money (sh)	Ordinary	Express	Interstate
	sh	sh	sh
1 001 – 5 000	125	196	450
5 001 – 10 000	240	300	720
10 001 – 20 000	400	600	1200
20 001 – 50 000	810	1100	2500

Anita sent two money orders; one ordinary for sh 10 500 to her son in Mombasa and one interstate money order for sh 32 000 to her daughter in Tanzania. How much commission was charged at the post office?

A. sh 3 700
B. sh 2 900
C. sh 1 700
D. sh 1 210

41. The marked price of a sewing machine is sh 5 000. A discount of 15% is allowed when buying on cash. Samwel bought the machine on hire purchase terms by paying a deposit of sh 2 000 and 8 equal monthly instalments of sh 420. How much more money did he pay on hire purchase terms than buying in cash?

A. sh 360
B. sh 1 110
C. sh 4 250
D. sh 5 360

42. Ali borrowed a loan of sh 40 000 from a bank. The bank charged simple interest on the loan. At the end of 2 years he paid a total of sh 48 000. What was the rate of interest charged per annum by the bank?

A. 4.5%
B. 8.3%
C. 10%
D. 20%

43. In a car park, $12\frac{1}{2}\%$ of the vehicles packed are school vans. What is the percentage of school vans as a ratio in the simplest form?

A. 25:200

B. 3:25

C. 1:8

D. 1:4

44. Nine men can paint a wall in 20 days. How many more men, working at the same rate, will be required to paint the same wall in 12 days?

A. 6

B. 8

C. 15

D. 21

45. A has a capacity of 60 passengers. However, during the COVID-19 pandemic regulations, the capacity of the bus was 32 passengers. What is the percentage decrease in the capacity of the bus?

A. $46\frac{2}{3}$

B. $53\frac{1}{3}$

C. $63\frac{1}{3}$

D. $87\frac{1}{2}$

46. The pie chart below shows the items Mary sold at her kiosk on a certain day.
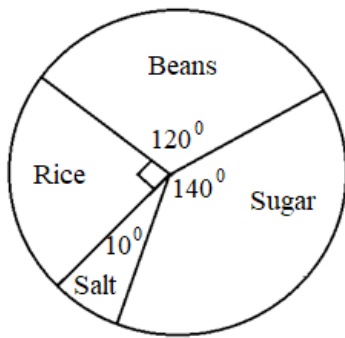
The total mass of the items sold was 160 kg. How many more kilograms of sugar than beans did she sell?

A. $115\frac{5}{9}$

B. $62\frac{2}{9}$

C. $53\frac{1}{3}$

D. $8\frac{8}{9}$

47. The table below shows a train travel timetable from station P to T.

Station	Arrival Time	Departure time
P		0200 h
Q	0250 h	0345 h
R	0500 h	0800 h
S	0930 h	1300 h
T	1440 h	1800 h

What is the difference between the longest and the shortest time that the train stops at the stations?

A. 55 minutes

B. 2 hours 35 minutes

C. 3 hours 30 minutes

D. 4 hours 25 minutes

48. The table below shows the amount of milk in litres delivered to a dairy for five days. The amount of milk delivered on Wednesday is not indicated.

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Amount of milk (litres)	24	30		20	40

The average amount of milk delivered in the five days was 30 litres. What was the quantity of milk delivered on Wednesday?
A.   114 litres
B.   46 litres
C.   36 litres
D.   26 litres

49. The length of a fence on a map is 5 cm. If the scale on the map is 1: 50000, what is the actual length of the fence in kilometres?
A.   0.25
B.   2.5
C.   250
D.   2500

50. The mean age of 9 pupils in a class is 13 years. The ages of 8 pupils are 13,12,12,14,12,14,12 and 14 years. What is the median age of the pupils?
A.   14
B.   13
C. $12\frac{1}{2}$
D.   12

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