



MENTOR ASSESSMENT SERIES - 2021

CLASS 8 MATHEMATICS

002

Time: 2 Hours

READ THESE INSTRUCTIONS CAREFULLY

1. You have been given this booklet and a separate answer sheet. The question booklet contains 50 questions.
2. When you have chosen your answer, mark it on the **ANSWER SHEET**, not in the question paper.

HOW TO USE THE ANSWER SHEET

3. Use only an ordinary pencil.
4. Make sure you have written on the answer sheet:
YOUR INDEX NUMBER
YOUR NAME
NAME OF YOUR SCHOOL
5. By drawing a **dark line** inside the correct numbered boxes mark your full index number (i.e. School Code Number and the three-figure Candidate's Number) in the grid near the top of the answer sheet.
6. Do not make any marks outside the boxes.
7. Keep your answer sheet as clean as possible and **DO NOT FOLD IT**.
8. For each of the Questions 1 – 50 four answers are given. The answers are lettered A, B, C, D. In each case only **ONE** of the four answers is correct.
Choose the correct answer.
9. On the answer sheet the correct answer is to be shown by drawing a dark line inside the box in which the letter you have chosen is written.

Example

11. The perimeter of a square is 256 cm. What is its area?

- A. 64 cm^2
- B. 4096 cm^2
- C. 16 cm^2
- D. 256 cm^2

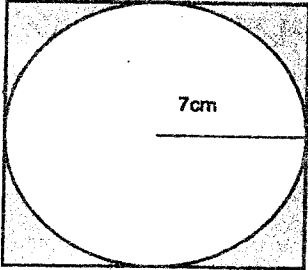
The correct answer is **B**

On the answer sheet:

1. [A] [B] [C] [D] 11. [A] [B] [C] [D] 21. [A] [B] [C] [D] 31. [A] [B] [C] [D] 41. [A] [B] [C] [D]

In the second set, the box with the letter B printed in it is marked.

10. Your dark line **MUST** be within the box.
11. For each question **ONLY ONE** box is to be marked in each set of four boxes.
This Question Paper consists of 7 printed pages.

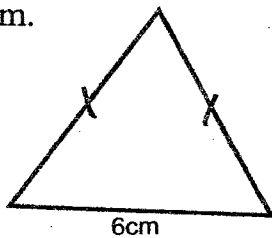
11. A bicycle wheel covers a distance of 7.4km after making 2000 revolutions. What is the diameter of the wheel in cm?
- 88cm
 - 176cm
 - 112cm
 - 56cm
12. Arrange the following numbers in descending order
0.4, $\frac{1}{3}$, 0.12, 0.3, $\frac{3}{5}$
- 0.8, $\frac{3}{5}$, 0.4, $\frac{1}{3}$, 0.12
 - 0.8, 0.4, $\frac{3}{5}$, 0.12, $\frac{1}{3}$
 - 0.8, 0.4, $\frac{3}{5}$, 0.12, $\frac{1}{3}$
 - 0.12, $\frac{1}{3}$, 0.4, $\frac{3}{5}$, 0.8
13. Three pieces of ropes measures 18cm, 24cm and 33cm. What is the largest length of equal pieces that can be cut from the three pieces of ropes?
- 11cm
 - 6cm
 - 2cm
 - 3cm
14. A brick making box measure 60cm by 30cm. It is open on both sides. What is its outer surface area?
- 900cm²
 - 720cm²
 - 5400cm²
 - 3600cm²
15. A patient fell in a coma on 11th February 2016. He regained his conscious after 40 days. On which day and month did he regain his conscious?
- March 11th
 - March 22nd
 - March 23rd
 - March 21st
16. The figure below shows a circle drawn inside a square.
- 
- Calculate the area of the shaded part? (take $\pi = \frac{22}{7}$)
- 42cm²
 - 196cm²
 - 154cm²
 - 21cm²
17. A hawker sold 2 pairs of shoes for sh.2310. If he made 10% profit, what was the buying price of one pair of shoes?
- Sh.2100
 - Sh.1050
 - Sh.1155
 - Sh.25 200
18. What is the value of y in the equation?
 $7y - 5y + \frac{1}{3}(6y + 4y) = 10$
- $1\frac{7}{8}$
 - 2
 - $\frac{2}{3}$
 - 10

19. The following are properties of quadrilateral
- I. Have four right angles
 - II. Interior angles add up to 360°
 - III. Have two pairs of parallel lines
 - IV. Have four sides
 - V. Opposite sides are equal
 - VI. Co-interior angles add up to 180°
 - VII. Diagonals are equal

Which properties applies to both trapezium and rectangle

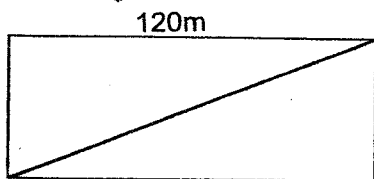
- A. (ii),(iii),(v), (vi)
- B. (i), (ii), (iii)
- C. (ii),(iv), (vi)
- D. (iv), (vi), (vii)

20. The perimeter of the isosceles triangle below is 36cm.



What is its area?

- A. 400cm^2
 - B. 384cm^2
 - C. 48cm^2
 - D. 800cm^2
21. The perimeter of the plot of the land below is 310m. The longer side is 120m. The owner decided to erect fence along one of its diagonals as shown below.



What is the length of the fence?

- A. 250m
- B. 140m
- C. 70m
- D. 125m

22. In a school there were 450 pupils, $\frac{1}{3}$ of the pupils were given a half orange each. The rest were given a quarter of an orange each. How many oranges were given to all pupils?
- A. 300
 - B. 150
 - C. 450
 - D. 75

23. Mwanzia paid sh.140 for a pair of trouser after being given a discount. If he was given a discount of 20%. What was the marked price of the trouser?
- A. 16.50
 - B. 11.50
 - C. 175
 - D. 350

24. The price of petrol was sh.108. it was increased in the of 7:6, what was the new price of petrol after the increase?
- A. 126
 - B. 26
 - C. 96
 - D. 118

25. A car was travelling at a speed of 100km/h. How long did it take to cross a bridge which was 200 metres long?
- A. 5 min
 - B. 2min
 - C. $\frac{3}{25}$ min
 - D. 25min

26. The distance between two towns on the map is 5.5cm. If the scale used is 1:100000. What is the actual distance between the two towns in kilometers?
- A. 110 km
 - B. 55 km
 - C. 0.5 km
 - D. 5.5 km

27. The following table shows a bus journey from Nairobi to Nyeri

station	Arrival time	Departure time
Nairobi		10.30 am
Thika	11.15 am	11.30 am
Sagan	12.30 pm	12.40 pm
Makutano	1.10 pm	1.30 pm
Nyeri	3.00 pm	

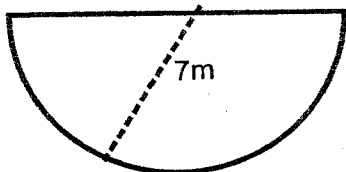
How long did the bus take to travel from Sagana to Makutano?

- A. $1\frac{1}{2}$ hrs.
- B. 20 min
- C. 1 hr. 20 min
- D. $\frac{1}{2}$ hr.

28. What is $\frac{1}{3}$ of $\frac{4}{5} + (\frac{1}{2} - \frac{1}{8}) \div \frac{3}{4}$

- A. $1\frac{1}{5}$
- B. $1\frac{1}{3}$
- C. $\frac{23}{30}$
- D. $\frac{9}{10}$

29. The figure below represents a school flower garden. If flowers were planted 2 metres apart round the flower garden



How many flowers were planted?

- A. 11
- B. 18
- C. 36
- D. 22

30. Adhiambo shared his land to his two sons and one daughter. Each of the son got $\frac{1}{3}$ of the land. If the daughter got $\frac{1}{2}$ of the remainder. He kept the remaining piece of land for himself. If he remained with 0.6 hectares, how many hectares did each son get?

- A. 1.2 ha
- B. 3.6 ha
- C. 0.6 ha
- D. 1.8 ha

31. A shopkeeper bought 6 trays of eggs @ sh.120 per tray. Ten eggs broke and he sold the rest at sh.7 per egg. If a tray holds 30 eggs, what percentage profit did he make?

- A. 50%
- B. 60%
- C. $65\frac{5}{18}\%$
- D. $63\frac{3}{18}\%$

32. A man hired 11 men to dig his piece of land in 16 hours. How many more hours did it take to complete the job if 3 men did not turn up?

- A. 22
- B. 6
- C. 7
- D. 21

33. A rectangular piece of land measures 32m by 24m has the same area as another triangle plot with perpendicular height of 24m. What is the length of the base of the triangular plot

- A. 64m
- B. 32m
- C. 12m
- D. 30m.

34. A jet took 4 hrs 15 min to travel from Accra to Nairobi. If it reached Nairobi at 0200 hrs on Tuesday, at what time had it left Accra in am/pm?

- A. 21.45 am
- B. 9.45pm
- C. 3.45pm
- D. 3.45am

35. A family tank had 10 000 litres of water. The family used 10% of water every week. How much water was in the tank at the beginning of the third week?
- A. 8100L
B. 7290L
C. 8000L
D. 7000L
36. What is the difference between the next two numbers?
9,25,49,121,169 _____
- A. 361
B. 289
C. 72
D. 120
37. The hire purchase price of a machine is 30% more than the cash price. The cash price is sh.12000. Janet paid sh.1500 monthly installment of 8 months. How much was the deposit?
- A. Sh.15600
B. Sh.40000
C. 4000
D. 3600
38. In a function, the number of women was twice that of men. The number of children was half the total number of adults. If there were 180 people, how many children were there in the function?
- A. 60
B. 80
C. 40
D. 90
39. Gramo Academy deposited sh.150 000 in a bank which offer interest at the rate of 12% p.a. How much interest did it earn if the money was withdrawn after 9 months?
- A. Sh.13 500
B. Sh.63 500
C. Sh.163 500
D. Sh.5000
40. A kindergarten has 630 children. Each child is given two 2dl packets of milk thrice in a week. How many litres of milk do the children consume in one week?
- A. 756
B. 7560
C. 75.6
D. 7.50
41. The floor of an office measures 16m by 12m. A carpet is laid in the office leaving a uniform margin of 2m all round. What is the area of the floor not covered by the carpet?
- A. 192m^2
B. 96m^2
C. 140m^2
D. 52m^2
42. A watch loses 3 seconds every hour. If it is set right on Monday at 11.00 am, what time will it show after 5 days?
- A. 11.06am
B. 10.45am
C. 11.02am
D. 10.54am

43. The table below shows the number of litres of milk supplied by a dairy farmer to a school in Nakuru county in a week

Day of the week	Mon	Tue	Wed	Thur	Fri	Sat	Sun
No. of litres	29	38	34	33	42		27

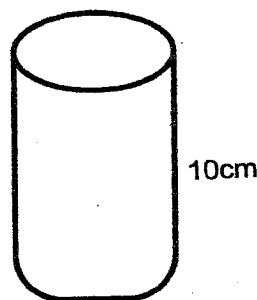
If the mean supply for the week was 35 litres, how many more litres were supplied on Saturday than on Sunday?

- A. 35
B. 15
C. 42
D. 34
44. Construct triangle ABC such that line $AB=10\text{cm}$ and $CA=8.3\text{cm}$. Draw a circle touching lines AB, BC and CA. What is the radius of the circle?
- A. 2.4cm
B. 5.3cm
C. 2.9cm
D. 4cm
45. Amina bought the following items from a shop.
- 2 packets of maize flour @ sh 108
 - 5 tins of cooking oil @ sh 30
 - 2 bars of soap for sh 420
 - 2 loafs of bread each @ sh 50
 - 5 matches @ sh 4
- If she gave the shopkeeper two five hundred shillings notes, how much would she have added in order to be given hundred shilling notes?
- A. Sh.56
B. Sh.86
C. Sh.94
D. Sh.344

46. A mother is 5 years younger than her husband and their son is 25 years younger than his father. If the son's age is x , how old is the mother?

- A. $(2x+20)$ years
B. $(x+30)$ years
C. $(3x+25)$ years
D. $(x+20)$ years

47. The cylinder below has a volume of 6160cm^3 . If its height is 10cm.



Calculate its diameter

- A. 28cm
B. 14cm
C. 7cm
D. 56cm
48. What is the value of $\frac{b+1}{2c(a-2)^2}$ When $a=5$, $b=a+3$ and $c=2a+b$
- A. $\frac{1}{36}$
B. 36
C. $\frac{1}{84}$
D. 84

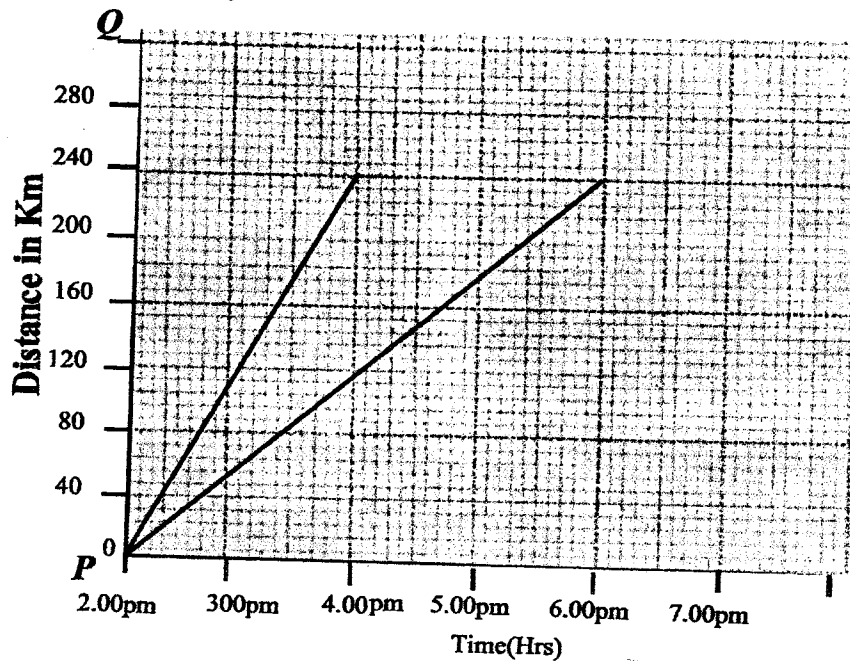
49. The table below represent the number of people given a covid 19 vaccine at a hospital

week	1st	2nd	3rd	4th	5th	6th
No. of people	12	15	8	16	10	11

If the information is to be represented on a pie chart, how many more degrees will represent the attendance in 2nd week than 5th week?

- A. 75°
- B. 50°
- C. 25°
- D. 125°

50. The graph below shows a journey of two motorists



How far from Q was the lorry when the car completed the journey?

- A. 80km
- B. 160km
- C. 60km
- D. 20km