MENTOR ASSESSMENT EXAM - 2020
CLASS 8
MATHEMATICS
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 perimetre 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.

1. Which one of the following numbers is eight million, seventy six thousands, two hundred and five in symbols?
   A. 8,760,205
   B. 8,075,205
   C. 8,076,205
   D. 876,205

2. What is the number 499,889 rounded off to the nearest thousands?
   A. 500,000
   B. 490,000
   C. 499,000
   D. 499,800

3. What is the next number in the pattern?
   7, 9, 12, 17, 24, ____.
   A. 28
   B. 33
   C. 35
   D. 36

4. What is the value of $\frac{4^2 - 6}{5} + 4$
   A. $2\frac{4}{5}$
   B. $4\frac{2}{5}$
   C. $4\frac{4}{5}$
   D. 6

5. What is the value of 0.51 X 4.8
   A. 0.2448
   B. 2448
   C. 24.48
   D. 2.448

6. What is the value of $\frac{2}{3}(1\frac{1}{2} + \frac{1}{4} \div \frac{1}{6}) + \frac{5}{6} + 1\frac{5}{6}$
   A. $2\frac{5}{11}$
   B. $1\frac{6}{11}$
   C. 3
   D. $4\frac{2}{3}$

7. A rectangular container 100cm long, 60cm wide and 80cm high is filled with water up to the level of 50cm. What is the volume of the empty space?
   A. 480,000cm3
   B. 180,000cm3
   C. 300,000cm3
   D. 240,000cm3

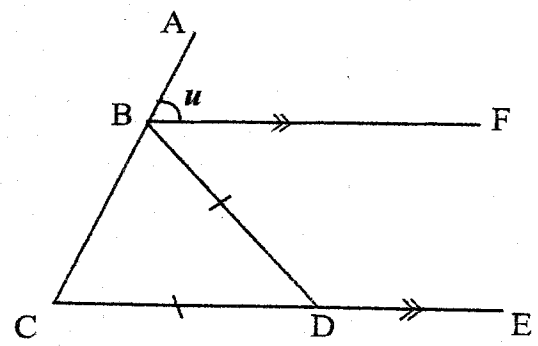
8. How many groups of hundreds are in the total value of digits 4 in the 2,498,635?
   A. 400,000
   B. 40,000
   C. 4000
   D. 400

9. A triangular plot measuring 17.5m, 15m and 25.5m was fenced using posts spaced at 2m. How many posts were used?
   A. 58
   B. 116
   C. 30
   D. 29

10. Work out $(3\frac{1}{2})^2 + \sqrt{6\frac{1}{4}}$
    A. $14\frac{3}{4}$
    B. $12\frac{1}{2}$
    C. $13\frac{3}{4}$
    D. $10\frac{3}{4}$

11. Which of the following is the greatest number that can divide 72, 96 and 108 without a remainder?
    A. 24
    B. 12
    C. 18
    D. 36

12. In the figure below ABC and CDE are straight lines. BD=CD and angle BDE=106.



What is the value of the angle marked U.

A. 53
B. 32
C. 74
D. 37

13. A baby slept at 10.20pm on Monday and woke up on Tuesday at 6.15am. How long did the baby sleep?

A. 7hrs 55min
B. 16hrs
C. 5hrs 15
D. 4hrs 05min

14. What is 17÷3 correct to the nearest hundredths?

A. 0.18
B. 0.176
C. 5.667
D. 5.67

15. Construct triangle XYZ in which line YZ=6cm angle XYZ=60^0 and angle ZXY=65^0. What is the length of line XZ

A. 5.3cm
B. 6.8cm
C. 5.7cm
D. 6cm

16. James paid sh 1710 for an item after being given a 5% discount, how much less could he have paid if he was given 8% discount?

A. 54 B. 90
C. 1656 D. 144

17. Three bells ring at interval of 12 seconds, 15 seconds and 18 seconds. If the bells rang at 8:30 am, what time will they ring together again for the third time.

A. 8:33 am
B. 8:30 am
C. 8:39 am
D. 8:36 am

18. Wanjiru bought a radio on hire purchase terms by paying a deposit of 8000. He paid the remaining amount in equal monthly installment of sh 1500 each. For how many months did she pay the balance if she finally paid a total sum of 20,000?

A. 8 B. 12
C. 6 D. 15

19. A farmer had 120 cows, 80 goats, 70 sheep and 90 camels. If a pie chart is drawn to represent this information, what angle would represent the number of Camels?

A. 120^0
B. 80^0
C. 70^0
D. 90^0

20. Below are statement of a certain quadrilateral

i) All sides are equal
ii) Diagonals bisect each other at 90^0
iii) Diagonals are not equal
iv) Opposite sides are equal and parallel

What quadrilateral described above

A. Rhombus
B. Rectangle
C. Parallelogram
D. Square

21. The table below shows number of litres of milk delivered to a milk dairy in a week.

Days	Mon	Tue	Wed	Thur	Fri	Sat
Litres delivered	45	42	41	50	40	30

On which two consecutive days was delivery highest?

A. Monday, Thursday

B. Tuesday, Wednesday

C. Wednesday, Thursday

D. Friday, Saturday

22. The fraction $\frac{2}{5}, \frac{4}{9}, \frac{1}{2}$ and $\frac{3}{7}$ have to be arranged from the smallest to the largest. Which of the following is the correct order?

A. $\frac{1}{2}, \frac{4}{9}, \frac{3}{7}, \frac{2}{5}$

B. $\frac{4}{9}, \frac{3}{7}, \frac{2}{5}, \frac{1}{2}$

C. $\frac{1}{2}, \frac{2}{5}, \frac{3}{7}, \frac{4}{9}$

D. $\frac{2}{5}, \frac{3}{7}, \frac{4}{9}, \frac{1}{2}$

23. What is the value of $\frac{2x^2 - 3(y - z)}{y - z}$ where $x=3$, $y=8$ and $z=y-3$

A. 12

B. 4

C. 8

D. 6

24. Carzola, Giroud and Ozil scored goals for their team .Carzola scored 2 less goals than Giroud who scored twice as many goals as Ozil scored. What was their total goal score if ozil scored g goals.

A. 4g+2

B. 5g+2

C. 6g-2

D. 5g-2

25. Salt is packed in 2kg packets. If the mass of the salt in each packet is reduced by 20%, What would be the new mass of each packet?

A. 1.6kg

B. 2.4kg

C. 1.85kg

D. 1.75kg

26. Kamau had 400 fifty shilling notes. He changed sh. 5,000 into one thousand shillings note, sh. 8,000 into five hundred shilling notes, sh. 2,000 into two hundred shilling notes and the rest into one hundred shilling notes. How many notes did she get all together?

A. 76

B. 81

C. 145

D. 69

27. Which of the following set of measurement will not form a right angled triangle when drawn?

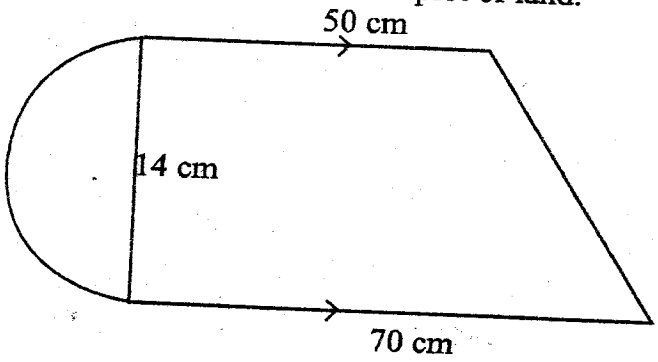
A. 24cm, 32cm,40cm

B. 9cm,16cm,25cm

C. 18cm,80cm,82cm

D. 25cm,15cm,20cm

28. The figure represent Biko plot of land.



What is the area of the plot in square metres

A. $840cm^2$

B. $77cm^2$

C. $917cm^2$

D. $763cm^2$

29. Malemba deposited some money in savings account which paid simple interest at the rate of 10% p.a. After 2 ½ years, he had an interest of sh 4000. How much money had he deposited?

A. Sh 16000

B. Sh 40000

C. Sh 1000

D. Sh 5000

30. 3.6 tonnes of flour was packed into 2kg packets, the packets were later put into bales, if each bale occupied 12 packets, how many bales were obtained?

A. 15 B. 15000
C. 150 D. 1500

31. Mkulima bora harvested 3400 bags of maize in year 2010, if this was 20% decrease in the production 2009,what was the production for 2009.

A. 4080 B. 4250
C. 2750 D. 8330

32. A motorist left Eldoret town at 2215hrs on Monday for Nakuru at a speed of 90km/h. If he arrived at 0145hrs Tuesday, how far was it from Eldoret to Nakuru.

A. 315km
B. 225km
C. 270km
D. 135km

33. Simplify the expression below.

$$\frac{3\,(2n+3m)-2\,(3n-2m)}{2\,(3m+4n)-3\,(2m+2n)}$$

A. $\frac{12n+3m}{12m+14n}$

B. $\frac{5m}{2n}$

C. $\frac{13n}{2m}$

D. $\frac{13m}{2n}$

34. Mwikali bought the following items from a shop

$2\frac{1}{2}$ kg rice @sh80

$1\frac{1}{2}$ kg maize flour @sh 100

2 kg cooking fat @ sh 120

3 pieces of bathing soap for140

If she paid using two five hundred shilling notes. What balance did she get?

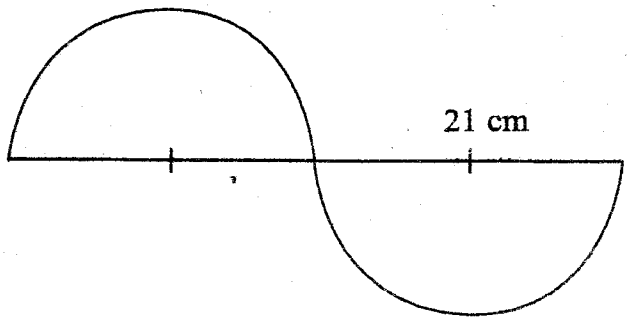
A. 730 B. 560
C. 440 D. 270

35. What is twice the value of y

$$\frac{5y+5}{5}+\frac{y-3}{3}=12$$

A. 9
B. 18
C. $4\frac{1}{2}$
D. 21

36. The figure below is made up of the two semi-circles



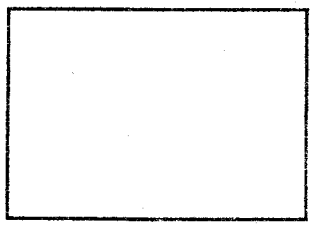
What is the perimeter (pie=22/7)

A. 33cm
B. 54cm
C. 108cm
D. 132

37. A rectangular tank has a capacity of 480,000 litres. If its base area is 30,000m^3, what is its height in metres.

A. 160
B. 16
C. 1.6
D. 0.016

38. A piece of land below is drawn to scale 1:5000



What is the actual area in hectares?

A. 30000 ha
B. 300 ha
C. 3 ha
D. 30 ha

39. In a company the ratio of men on women employees is 4:7 if there are 240 less men than women, what is the sum of the number of men and women employees in the company?
A. 320
B. 880
C. 560
D. 180

40. Four people Alice, Tony, Terry and Aoron contributed some money to buy a plot. Alice contributed $\frac{1}{3}$ of the total; Tony contributed $\frac{2}{5}$ of the total while Aoron contributed $\frac{1}{4}$ of the remainder. If Terry contributed sh 30,000. What was the cost of the plot?
A. Sh 50,000
B. Sh 37,500
C. Sh 150,000
D. Sh 300,000

41. Hussein earns sh 12000 per month. Kwamboka earns twice the amount Hussein earns. How much money do they earn altogether in one year?
A. Sh 36000
B. Sh 288000
C. Sh 144000
D. Sh 432000

42. The mean of six girls is 45kg. The masses of the first four girls are 48kgs, 42kgs, 40kgs and 45kgs. If one of the remaining weighs 5kg less than the other, what is the median mass of the six girls?
A. 95kgs
B. 45kgs
C. 50kgs
D. 55kgs

43. Maingi had 571 bottles of soda which he packed into crates each holding 24bottles. How many more bottles did he need in order to have full crates.
A. 5
B. 19
C. 23
D. 24

44. Construct triangle XYZ in which XY=YZ=ZX=6.8cm. Draw a circle that touches points XY and Z. What is the radius of the circle.
A. 8 cm
B. 2 cm
C. 3.9 cm
D. 4.7 cm

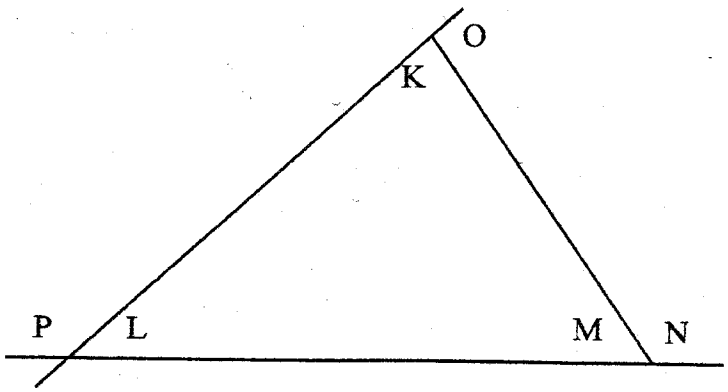
45. What is the area of a curved surface of a closed cylinder whose radius is 1.4 m and has a height of 2 m?
A. 29.92 m^2
B. 30.8 m^2
C. 12.32 m^2
D. 17.6 m^2

46. Alice spent sh 1500 to buy 12 basins and later sold them making a profit of 20%. For how much did she sell each basin.
A. Sh 150
B. Sh 210
C. Sh 180
D. Sh 170

47. The diagonal of a rectangular room is 17m. If one of its sides is 15m, what is the area of the room in square metres.
A. 225
B. 195
C. 120
D. 60

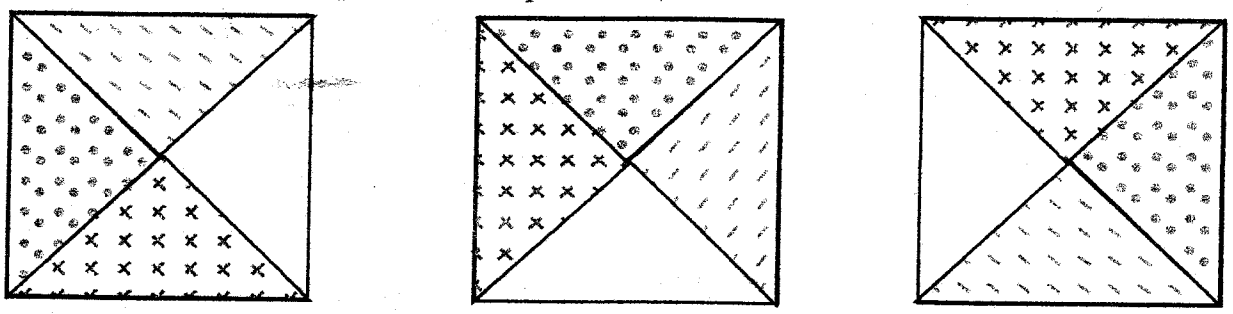
48. What is the value of
$\sqrt{\frac{289 - 64}{7^2 + 24^2}}$
A. $\frac{3}{5}$
B. $\frac{9}{31}$
C. $\frac{17}{25}$
D. $\frac{9}{25}$

49. Which one of the following statements is TRUE about the figure below.

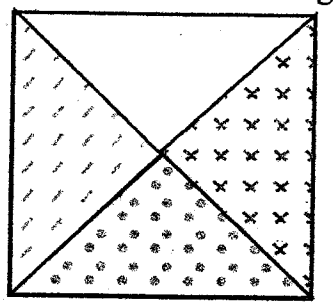


A. K+O+M = 180
B. P+L = O-K
C. O-L = K
D. N-L = K

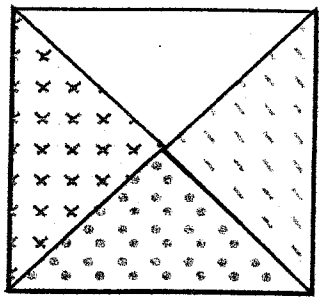
50. The figure below shows a pattern of shapes.



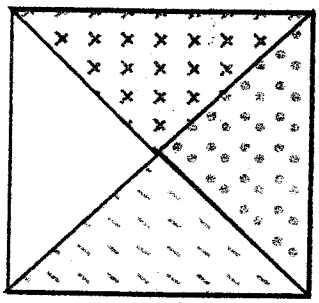
Which of the following represents the next pattern?



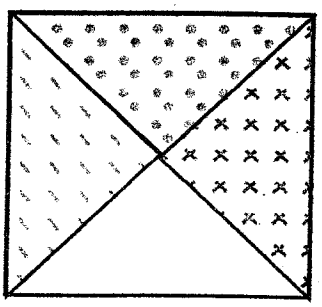
A.



B.



C.



D.