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# STANDARD SEVEN MID-TERM 3 EXAMS

## 2016 MATHEMATICS

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# NATIONAL SERIES- MATHEMATICS STD 7 2016M

## MATHEMATICS

TIME: 2 Hours

### READ THESE INSTRUCTIONS CAREFULLY

1. You have been given this question booklet and a separate answer sheet. The question booklet contains 90 questions
2. Do any necessary rough work in this booklet.
3. When you have chosen your answer mark it on the ANSWER SHEET, not in the question paper.

### HOW TO USE THE ANSWER SHEET

4. Use an ordinary pencil only.
5. Make sure that you have written on the answer sheet:-  
YOUR INDEX NUMBER  
YOUR NAME  
NAME OF YOUR SCHOOL
6. By drawing a dark line inside the correct numbered boxes mark your full Index Number (i.e.) School Code Number and the three - figure Candidates Number) in the grid near the top of the answer sheet.
7. Do not make any marks outside the boxes.
8. Keep your answer sheet as clean as possible and DO NOT FOLD IT.
9. For each of the questions 1- 90 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.
10. On the answer sheet show the correct answer by drawing a dark line inside the box in which the letter you have chosen is written.

#### Example

##### In the Question Booklet:

8. Simplify the expression  
 $2(4x - 3) - 3(2x + 6)$   
A.  $14x + 24$   
B.  $2x + 24$   
C.  $14x - 24$   
D.  $2x - 24$

The correct answer is D.

##### On the Answer Sheet:

8. [A] [B] [C] [D] 9. [A] [B] [C] [D] 10. [A] [B] [C] [D] 11. [A] [B] [C] [D]  
In the set of boxes number 8, the box with letter B printed in it is marked.

11. Your dark line MUST BE within the box.
12. For each question ONLY ONE box is to be marked in each set of four boxes.

Candidates should check the question paper to ensure that all the pages are printed

TURN OVER

1. Write eleven million one hundred and one thousand one hundred and eleven in figures  
 A. 11111101  
 B. 1110111  
 C. 11101111  
 D. 11101011
2. What is the total value of digit 7 in the products of 974 and 367?  
 A. 70  
 B. 7000  
 C. 700  
 D. 7
3. What is the sum of the next two numbers in the sequence 2, 3, 5, 7, \_\_\_\_\_, \_\_\_\_\_?  
 A. 24  
 B. 9  
 C. 8  
 D. 11
4. What is the value of  $\frac{2(8^2 - 4^2) - 6}{2^2 + 2}$   
 A. 15  
 B. 10  
 C. 2  
 D. 7
5. Find the square root of 0.9801  
 A. 0.99  
 B. 0.91  
 C. 0.0099  
 D. 0.091
6. Solve the value of x in the equation below  

$$\frac{7 + 2(x - 4)}{2} = 7$$
  
 A. 6  
 B. 11  
 C. 7  
 D. 4
7. The area of a rectangle ABCD is  $240\text{cm}^2$ . Its width is 10 cm long. A line drawn joining A and C is represented by  $2x - 8$  cm. Find the value of x?  
 A. 9 cm  
 B. 17 cm  
 C. 13 cm  
 D. 26 cm
8. Simplify: to 3 decimal places  
 $5.6 \times 0.375$   
 $36 \times 0.085$   
 A. 6.86  
 B. 0.686  
 C. 68.6  
 D. 0.0666
9. Twelve men can finish painting a house in 8 days. How many more men will be required in order to finish the job in 3 days?  
 A. 32  
 B. 10  
 C. 20  
 D. 22
10. Arrange the following fraction in descending order  
 $\frac{3}{8}, \frac{5}{12}, \frac{11}{18}, \frac{7}{24}$   
 A.  $\frac{7}{24}, \frac{3}{8}, \frac{5}{12}, \frac{11}{18}$   
 B.  $\frac{11}{18}, \frac{5}{12}, \frac{3}{8}, \frac{7}{24}$   
 C.  $\frac{5}{12}, \frac{3}{8}, \frac{7}{24}, \frac{11}{18}$   
 D.  $\frac{11}{18}, \frac{5}{12}, \frac{7}{24}, \frac{3}{8}$
11. Mr Chepkwony bought 60 kg of maize at Sh. 48 per kg. What percentage profit did he make, if he sold maize flour at Sh 60 per kg?  
 A. 20%  
 B. 10%  
 C. 25%  
 D.  $38\frac{1}{3}\%$
12. The table below shows people who attended wedding ceremony
- | Men | Women | Children |
|-----|-------|----------|
| 890 | 2100  | 5900     |
- If each child paid Sh 30 and each adult paid Sh 100. What was the total amount collected?  
 A. Ksh 17700  
 B. Ksh 210000  
 C. Ksh 387000  
 D. Ksh 476000
13. By how much in the L.C.M of 24, 12 and 28 greater than their G.C.D?  
 A. 168  
 B. 172  
 C. 4  
 D. 164

14. A trader allows discount of 15% for cash. If he gives Sh. 2250 discount on an article, what is the original selling price of the article?
- A. Sh 15000  
B. Sh 22500  
C. Sh 4550  
D. Sh 30 000

15. A lady bought the following items from a supermarket

One bar of soap for Sh 75

Two kg packet of flour @ Sh. 125

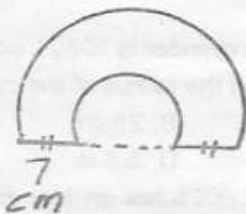
2  $\frac{1}{2}$  kg of sugar @ Sh 55

2 kg tin of cooking fat for Sh.225

Two packet of biscuits @ Sh 50

She paid for the items using two 500 shillings notes. How much more money will she give the shopkeeper in order to get a balance of Sh 200?

- A. Sh 182. 50  
B. Sh 18. 50  
C. Sh 17. 50  
D. Sh 38. 50
16. What is the perimeter of the figure below?



- A. 66 cm  
B. 44 cm  
C. 58 cm  
D. 88 cm
17. Ole Kolei made  $\frac{3}{5}$  of a journey by a bus  $\frac{3}{4}$  of the remainder by train and walked the rest of the journey. The distance he walked was 30 kms. How long was the whole journey?
- A. 30 km  
B. 270 km  
C. 100 km  
D. 300km

18. The ration of broilers to layers in kenoi farm is 3 : 4 . The ratio of broilers to geese is 5 : 3 Find the total number of poultry in kenoi farm if there were 15 broilers in his farm?

- A. 50  
B. 44  
C. 59  
D. 39
19. Three bells ring at intervals of 15 minutes, 30 minutes and 45 minutes. If they rang together for the first time at 8. 25 am. At what time did they ring together the third time?
- A. 12. 55 am  
B. 9.55 am  
C. 12.55 pm  
D. 11. 25 am

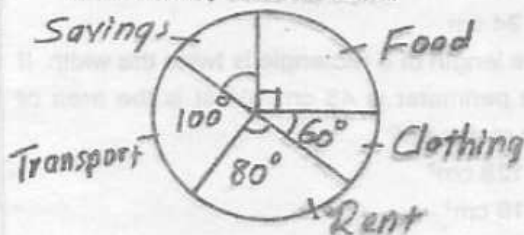
20. A watch loses 2 seconds every two hours. It was set right on Sunday 8. 20 am. At what time will the watch be showing on Friday 8. 20 am?

- A. 8 .16 am  
B. 8 . 24 am  
C. 8.18 am  
D. 8.22 am

21. In Kabarak Primary school  $\frac{3}{5}$  of the pupils are girls. On a day when  $\frac{3}{20}$  of the girls were present, 153 girls were absent. How many boys are there in the school?

- A. 136  
B. 204  
C. 187  
D. 340

22. The pie chart below show how a man uses his monthly salary . If he saves Sh. 3000, how much money does he earn?



- A. 36000  
B. 33000  
C. 250  
D. 9000

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23. Construct a triangle ABC such that AB = 6 cm. Line CA = 8 cm and angle BAC =  $90^\circ$ . Measure line BC
- 7 cm
  - 10 cm
  - 11.5 cm
  - 12 cm
24. The following are properties of a certain quadrilateral
- all side are equal
  - opposite side are parallel
  - opposite angles are equal
  - diagonals are unequal
  - diagonals bisect each other at a right angle
- What is the name of the quadrilateral?
- Parallelogram
  - Rectangle
  - Square
  - Rhombus
25. What is  $(4\frac{1}{2})^2$
- $18\frac{1}{4}$
  - $2\frac{1}{4}$
  - $16\frac{1}{4}$
  - $20\frac{1}{4}$
26. The top of a ladder 26 cm long leans on a vertical wall. The ladder touches the wall at a height of 10 cm. What is the horizontal distance from the bottom of the ladder to the wall?
- 36 cm
  - 50 cm
  - 20 cm
  - 24 cm
27. The length of a rectangle is twice the width. If the perimeter is 48 cm. What is the area of the rectangle?
- $128\text{ cm}^2$
  - $16\text{ cm}^2$
  - $8\text{ cm}^2$
  - $120\text{ cm}^2$

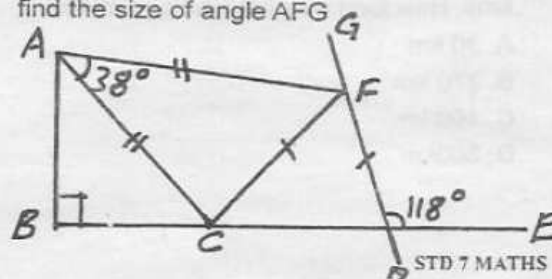
28. Ibrahim bought  $x$  bananas at Sh. 12 each,  $s$  oranges at Sh 5 each and  $y$  mangoes at Sh. 9 each. Which expression show how much he used?
- Sh  $(x + 5 + y)$
  - Sh  $(x + s + y + 26)$
  - Sh  $xsy + 26$
  - Sh  $(12x + 5y + 9y)$

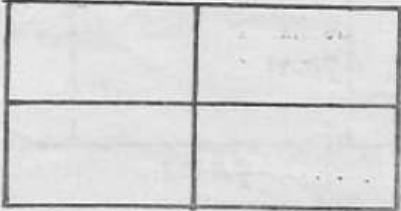
29. The table below shows the postal rates for Sending money orders

Value of order	Commission
Not exceeding 500	Sh 52
501 - 1500	Sh 80
1501 - 2500	Sh 162
2500 - 5500	Sh 262
5501 - 10 000	Sh 320

Benwa sent three money orders worth Sh 2200, Sh 1510 and Sh 5000 to three different people respectively. How much commission did he pay to the post office?

- Sh 9294
  - Sh 9030
  - Sh 584
  - Sh 324
30. The capacity of a cylinder is 3080 L when full. It is 8m deep. Find the radius of the cylinder?
- 3.5 cm
  - 28 cm
  - 0.35 m
  - 3.5 m
31. A meeting ended 0025 hrs on Monday after taking 6 hours and 55 minutes. At what time and day had the meeting started?
- 1730 hrs on Sunday
  - 5.30 am on Sunday
  - 1730 hrs on Monday
  - 5.30 pm on Monday
32. In the figure below line BCD and DFG are straight line, Angle CAF =  $38^\circ$  and FDE is  $118^\circ$ , find the size of angle AFG



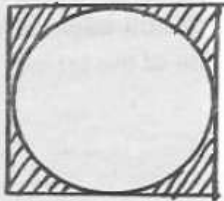
- A.  $53^\circ$   
 B.  $71^\circ$   
 C.  $118^\circ$   
 D.  $62^\circ$
33. A motorist travelling at a speed of 54 km/h took two hours to travel to town. After stopping for half an hour, he travelled back at a speed of 72 km/h. Find his average speed for the whole journey?  
 A. 60 km/hr  
 B. 54 km/hr  
 C. 48 km/hr  
 D. 52 km/hr
34. Which one of the following is the next number in the sequence below?  
 3, 7, 16, 32, \_\_\_\_?  
 A. 47  
 B. 67  
 C. 57  
 D. 56
35. Land agent was left with Sh 810 000 after paying out of a 10% commission to a company for the sales of a plot. What was the selling price of the plot?  
 A. Sh 900 000  
 B. Sh 17 100 000  
 C. Sh 818 000  
 D. Sh 812 250
36. During a school meeting 36% of those who attended were female and the rest were 120 in number. What was the percentage of males expressed as a decimal?  
 A. 0.53  
 B. 0.56  
 C. 76.8  
 D. 0.64
37. Work out  
 $0.25 + 3.2 + 0.06 + 10$   
 A. 4.51  
 B. 13.51  
 C. 12.51  
 D. 13.41
38. What is the square root of the number obtained when 196 is multiplied by 4?  
 A. 784  
 B. 56  
 C. 392  
 D. 28
39. Kamau bought a table on hire purchase terms. He paid a deposit of Sh 400 and then 6 equal instalments of 200 each. What was the hire purchase price of the table?  
 A. Sh 1600  
 B. Sh 2400  
 C. Sh 1200  
 D. Sh 3600
40. Simplify the inequality:  
 $4x + 7 < 39$   
 A.  $x > 8$   
 B.  $8 > x$   
 C.  $8 = x$   
 D.  $x > 6$
41. How many rectangles are in the figure below?
- 
- A. 5  
 B. 9  
 C. 4  
 D. 7
42. The ratio of men to women in a meeting was 4 : 5. If there were 6 more women than men, how many people were in the meeting?  
 A. 54  
 B. 36  
 C. 45  
 D. 56

43. What is the value of  $x$  in the equation below?

$$\frac{1}{2}(x - 5) + 3 = \frac{3}{4}$$

- A.  $\frac{1}{4}$
- B.  $\frac{1}{2}$
- C. 5
- D. 2

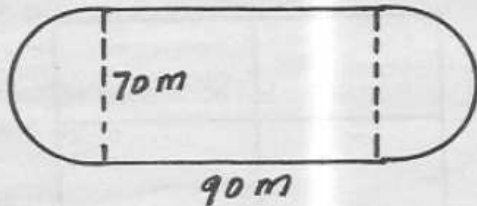
44. The figure below shows a circle enclosed by a square whose area is  $82.81 \text{ cm}^2$



What is the area of the shaded region?

- A.  $28.6 \text{ cm}^2$
- B.  $17.745 \text{ cm}^2$
- C.  $54.21 \text{ cm}^2$
- D.  $17.855 \text{ cm}^2$

45. Jepkurgat ran round the field below 5 times. What distance in km did she cover?



- A. 200 m
- B. 200 km
- C. 2 km
- D. 2m

46. A class had 36 pupils. Each pupil was given two 5 decilitre packets of milk. How many litres of milk was given out?

- A. 36L
- B. 360L
- C. 18L
- D. 180L

47. The area of right - angled triangle is  $84 \text{ cm}^2$ . If the height is 7 cm. What is the length of the longer sided?

- A. 24 cm
- B. 12 cm
- C. 25 cm
- D. 17 cm

48. When 50 litres of water were removed from the tank, only 150 litres remained. What percentage of water was removed?

- A. 20%
- B. 25%
- C. 30%
- D. 50%

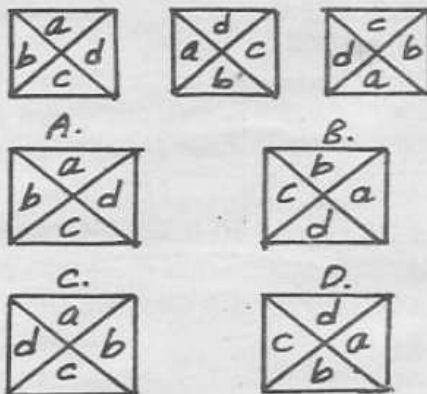
49. The table below gives the distance in km between four towns Murkan, Emmurua - Dikir, Mamboleo and Kabolecho

Murkan			
70	Emmaurua- Dikir		
80	80	Mamboleo	
120	60	102	Kabolecho

What is the distance between Murkan and Kabolecho via Emamarua - Dikir?

- A. 120 km
- B. 102 km
- C. 130 km
- D. 180 km

50. Which shaped can complete the pattern drawn below?



**For questions 16 -18, choose the correct question tag.**

16. I have forgotten his name, \_\_\_\_\_

- A. did I ?
- B. have I ?
- C. haven't I ?
- D. won't I?

17. Diamonds are very expensive, \_\_\_\_\_

- A. haven't they?
- B. are they?
- C. aren't they?
- D. have they?

18. Maria loves school , \_\_\_\_\_

- A. does she?
- B. doesn't she?
- C. did she?
- D. does she?

**For question 19 to 20 write the opposite of the highlighted word.**

19. Grandfather **cursed** them for their behaviour.

- A. criticized
- B. blessed
- C. punished
- D. rewarded

20. They stood on guard to **protect** the king.

- A. attack
- B. patrol
- C. disarm
- D. besiege

**For question 21 to 23 complete the sentences correctly.**

21 \_\_\_\_\_ book is this lying on the floor.

- A. Who's
- B. Whose
- C. Whose's
- D. Who is

22. Mitchell is \_\_\_\_\_ than her brother.

- A. fater
- B. more fatter
- C. fatter
- D. fattest

23. A \_\_\_\_\_ of thieves attacked us last night.

- A. group
- B. men
- C. gang
- D. battery

**For question 24 and 25 choose the best word to fill the blank spaces.**

24. Neither Rose nor her sister \_\_\_\_\_ come for the party.

- A. have
- B. has
- C. do
- D. does

25. She neither studies \_\_\_\_\_ performs well at school.

- A. or
- B. nor
- C. for
- D. and



**Read the following passage carefully and answer question 26 - 38.**

Julius Muthoku is a 12 year - old- boy who lives in Kangemi slum in Nairobi, where relatives house him and his mother and siblings. He is the first born in his family of 5. Two families are squeezed into a one room house and sometimes going without food makes life difficult. So Julius was sent to a children's home run by Catholic Church where he was enrolled in class 1 to start his primary education.

Though a bright boy, Julius could not settle down. He ran away and joined boys on the street. They formed a team and survived on small casual jobs like washing and drawing water for car washers. Who paid them 50 shillings for the job. To survive the cold nights on the streets, his friends influenced him to start sniffing glue and using drugs. He got hooked on drugs but not for long because he fell out with his friends, who became cruel to him. Life on the streets become unbearable.

He went back to his former school, where he was welcomed. But the joy was short - lived . He ran away again after a misunderstanding with his teachers. Continuous use of drugs had turned him into a violent boy who could not cope with anyone in school.

The school officials, determined not to lose this bright boy again went after him and persuaded him to come back. They put him into an intensive rehabilitation programme with a lot of counseling. He quit sniffing glue and using drugs. He is now attending school, performs well and is determined to stay and complete his education.

- |   |   |
|---|---|
| 26. Who does Julius live with?<br>A. His parents.<br>B. The nuclear family.<br>C. The extended family<br>D. His mother.   | 29. Why couldn't Julius settle down?<br>A. because he was a bright boy<br>B. due to peer pressure<br>C. he was being mistreated<br>D. because of his friends in the streets |
| 27. Who are two families squeezed in a one roomed house?<br>A. There is problem of housing<br>B. The families are poor<br>C. They like living together<br>D. Due to cost - sharing                        | 30. How did Julius earn his living in the streets?<br>A. By drawing pictures<br>B. By washing cars<br>C. By casual jobs.<br>D. By drawing water and washing cars.           |
| 28. Why was Julius sent to children home?<br>A. because it was ran by the catholic Church<br>B. to have a better home<br>C. to enroll in school and start his primary education<br>D. to have good meals. | 31. How did he fight the cold at night?<br>A. He bought blankets<br>B. He started sniffing glue<br>C. He got hooked on drugs<br>D. He ran away from the streets             |
|   | 32. The phrasal verb fell out is highlighted in the passage. What does it mean?<br>A. Disagreed<br>B. Co - operated<br>C. Ran away<br>D. Accepted                           |

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33. After taking drugs, Julius \_\_\_\_\_
- become a violent boy.
  - had no respect for teachers.
  - could not cope with anyone.
  - become sick.
34. The word **persuade** used in the passage means?
- To beg
  - To order
  - To pray
  - To plead
35. Why didn't the school want to lose Julius?
- He was very obedient.
  - He was one of their own.
  - He was very brilliant
  - He was very poor.
36. What made Julius come back to school?
- His determination.
  - His brains
  - His desire to learn.
  - The counseling he got.
37. Why was the joy short - lived?
- They did not enjoy for long.
  - Julius went back to the streets.
  - The teachers mistreated him.
  - He did not enjoy life for long
38. What lesson do we learn from this story?
- Life is hard.
  - Never give up!
  - Faith can heal hearts.
  - Work hard all the time.

**Read the following passage and then answer questions 39 - 50.**

A long time ago there was a man and his wife. They had a girl. The girl fell sick many times. She died. When she died, she was thrown away and a dove came and put her together again. The dove took the girl to a cave where she lived. But after a short while the girl said she wanted to go back to her mother. The dove told the girl that she must stay in the cave, but still the girl went. Now when she went home she fell sick again. The dove came, put her together and took her away. But the girl went home again intending never to return to the cave. Now when the dove came to fetch her, she stood outside and sang.

Uuai Uai ! Give me my ornament give me back .Then I can go back home where the rain comes down with ta, ta, ta,

The parents closed the door but they forgot to close the window and so the dove slipped in through the window and went straight where the girl was sleeping. She took away what she had given to the girl and the girl was all bones again. These bones were thrown away and as usual the dove found them and put them together. She took the girl to a very far place and they lived there forever.

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39. How many times did the girl die?
- Three
  - One
  - Four
  - Two
40. How many times did the dove revive the girl?
- Two
  - Four
  - Three
  - One
41. In the sentence, The dove took the girl to a cave where she lived, the word "she" refers to
- the girl
  - the wife
  - the dove's child
  - the dove
42. Why did the girl want to go home on the first occasion?
- She was unhappy.
  - She wanted to go to her mother
  - Her mother was lonely
  - She did not want to live with the dove.
43. On the second occasion
- the girl wanted to remain in the cave.
  - the girl said she wanted to go back home.
  - the girl had no intention of going back to the cave.
  - the girl did not want to go back home.
44. In the statement "she stood outside and sang the word "she" refers to
- the dove
  - the girl's mother.
  - the girl
  - the girl's father
45. What does the word "ornament" mean?
- a decoration
  - rain
  - a girl
  - rings
46. What does the ornaments refer to in the passage?
- What the dove was wearing.
  - What the dove had given to the girl to wear.
  - What the dove had given the girl to revive her.
  - What the dove was talking to the girl's parents
47. Why did the parents close the door?
- The girl was sleeping
  - It was raining outside
  - The window was open.
  - They wanted to shut the dove out
48. How many female characters are in the passage?
- Two
  - Three
  - One
  - Four
49. How did the dove revive the girl?
- She put her bones together.
  - She breathed into the girl.
  - She cursed her disease
  - She took her to a cave .
50. An appropriated title for this passage is
- "The ungrateful girl"
  - "The selfish dove"
  - "The sick dove"
  - The dove who revived a girl"