

JESMA K.C.P.E PREDICTION 2021

- MATHEMATICS-

March 2021 - 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 booklet.

HOW TO USE THE ANSWER SHEET

4. Use an ordinary pencil.
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 Candidate's 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 and D. In each case only ONE of the four answers is correct. Choose the correct answer.
10. 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

In the question booklet:

14. The fare between Nairobi to Kajiado is sh.300. Due to fuel price increase the fare was increased by 20%. What is the new fare?
- A. Sh. 380
 B. Sh. 360
 C. Sh. 320
 D. Sh. 240

$300 = 100$
 $20\% = 60$
 $300 + 60 = 360$

The correct answer is B (360)

On the answer sheet:

A B C D
 A B C D
 A B C D
 A B C D
 A B C D

In the set of boxes numbered 14, the box with the 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.

This question paper consists of 8 printed pages. Candidates should check the question paper to ensure that all the pages are printed as indicated and no questions are missing.



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Turn Over

MATHEMATICS

1. Which of the following number is eighteen million eighteen thousand and eighteen?

- A. 18 180 018
- B. 18 180 180
- C. 18 018 018
- D. 18 018 180

18 000 000
18 000
18

18 018 018

2. Which of the following inequality is CORRECT?

- A. $0.75 < 7.5\%$
- B. $0.15 = \frac{3}{20}$
- C. $\frac{2}{5} > 40\%$
- D. $0.3 = 3\%$

3. What is 3699.866 rounded off to two decimal places?

- A. 3699.89
- B. 3699.00
- C. 3700.00
- D. 3699.90

3699.90

4. A school has a population of 420 pupils. Each pupil is given a 2-20 packets of milk per week. How many litres do they consume in three weeks?

- A. 50.4
- B. 504
- C. 5040
- D. 50400

420 = 14
20 = 7
 $\frac{2 \times 20 \times 420}{1000} = 28$

5. How many groups of hundreds are there in digit 3 of the number 236525?

- A. 300
- B. 30
- C. 3000
- D. 30000

3000

6. What is the sum of LCM and GCD (HCF) of the number 12, 18, 30

- A. 180
- B. 6
- C. 186
- D. 174

2 | 12 | 18 | 30 |
2 | 6 | 9 | 15 |
3 | 3 | 3 | 5 |
3 | 3 | 5 |
5 | 1 | 5 | 5 |

2 | 12 | 18 | 30 |
3 | 6 | 9 | 15 |
2 | 3 | 5 |

6

7. What is the value of $\frac{8(6^2 - 4^2) + 9 \times 4}{7^2}$?

- A. 4
- B. 49
- C. 196
- D. 28

160
 $\frac{8(36 - 16) + 32}{49} = \frac{96}{49}$

8. 12 tonnes of maize was shared equally to families in hunger stricken area. If each family got 5kg of maize. How many families benefited?

- A. 2.4
- B. 24
- C. 240
- D. 2400

12000
5

2400

9. Kerubo deposited sh.120 000 in a bank that paid simple interest at the rate of 12% per annum. What was the amount that Kerubo paid after two years?

- A. Sh.28 800
- B. Sh.148 800
- C. Sh.14 400
- D. Sh.134 400

2
1250
1000

10. The area of a square garden is 62 500m². What is twice its perimeter

- A. 1000m
- B. 2000m
- C. 250m
- D. 500m

11. Shirleen woke up at 0638hrs after sleeping for 8hrs 45min. At what time had she slept?

- A. 9.53pm
- B. 3.23pm
- C. 9.53am
- D. 3.23am

12. Kamau made a 12% loss after selling a cow for sh.35 200. How much profit would he have made if he sold it making 15% profit?

- A. Sh.40 000
- B. Sh.6 000
- C. Sh.10 800
- D. Sh.46 000

13. What is the value of x in the equation?

$$\frac{2(5x - 10)}{4} + 1\frac{1}{2} = 12$$

- A. $3\frac{2}{3}$
- B. $4\frac{2}{3}$
- C. $2\frac{2}{3}$
- D. $6\frac{1}{3}$

14. The following fractions $\frac{5}{6}$, $\frac{3}{8}$, $\frac{4}{9}$ and $\frac{2}{3}$ are to be arranged in order from the largest to the smallest. Which is the CORRECT order?

- A. $\frac{3}{8}$, $\frac{4}{9}$, $\frac{2}{3}$, $\frac{5}{6}$
- B. $\frac{2}{3}$, $\frac{5}{6}$, $\frac{3}{8}$, $\frac{4}{9}$
- C. $\frac{4}{9}$, $\frac{3}{8}$, $\frac{5}{6}$, $\frac{2}{3}$
- D. $\frac{5}{6}$, $\frac{2}{3}$, $\frac{4}{9}$, $\frac{3}{8}$

15. Ken and Kelvin shared some money in the ratio 3:4. If Ken got sh.6000 less than Kelvin, how much did they share altogether?

- A. Sh.18 000
- B. Sh.42 000
- C. Sh.24 000
- D. Sh.36 000

16. What is the value of $3.6 - 1.2 + 2.4 \times 4 + 0.24$?

- A. 3.24
- B. 4.24
- C. 1.84
- D. 2.84

17. The road on a map 35km is represented on a map by 7cm on map. What is the scale used?

- A. 1 : 500
- B. 1 : 5000
- C. 1 : 50000
- D. 1 : 500000

18. The following are characteristics of a quadrilateral.

- (i) two pairs of parallel line.
- (ii) interior angles are equal
- (iii) diagonals are equal
- (iv) The diagonals bisect at right angle.

The quadrilateral described above is

- A. rhombus
- B. rectangle
- C. square
- D. parallelogram

$a = 2$
 $b = 6$
 $c = 3$

19. What is the value of $\frac{b(2a+c)^2}{a^2b}$ where

$$a = 2, b = 2c \text{ and } c = a + 1$$

- A. $3\frac{1}{4}$
- B. $12\frac{1}{4}$
- C. $\frac{49}{96}$
- D. $24\frac{1}{2}$

$\frac{6(2+3)^2}{2^2 \cdot 6}$
 $\frac{1710}{96}$

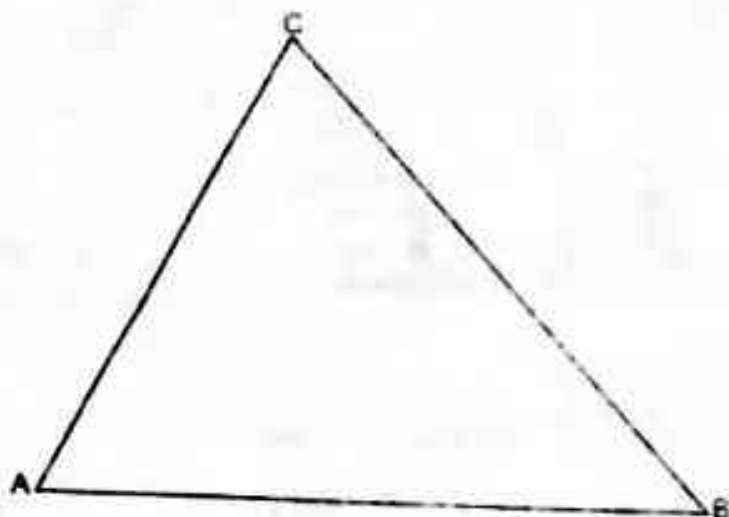
20. What is the capacity in litres of a cylindrical container whose diameter is 28cm and a height of 30cm

- A. 18480l
- B. 1848l
- C. 184.8l
- D. 18.48l

21. Njeri had 5-500 shillings notes, 12-200 shillings notes and 14-100 shillings notes. He decided to change all the money into 50 shillings notes. How many notes did he get?

- A. 6700
- B. 126
- C. 50
- D. 136

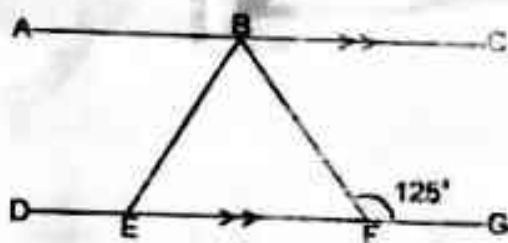
22. The triangle ABC below is drawn to scale.



What is the size of angle ACB?

- A. 70°
- B. 49°
- C. 61°
- D. 59°

23. In the figure below line ABC is parallel to line DEFG. Angle CBF = Angle EBF.



What is the size of angle DEF?

- A. 70°
- B. 110°
- C. 55°
- D. 35°

24. Jackline bought 200 mangoes in piles of 5 at 30 shillings per pile. She spent sh.300 on transport and later sold each mango at sh.9.00 each. What was the percentage profit?

- A. 20%
- B. 50%
- C. 16%
- D. 25%

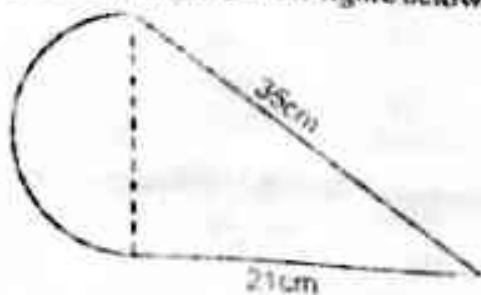
25. A clock loses ten seconds every hour. If it was set correct on Monday at 11.30am. What time did it show the following Monday the same time?

- A. 9.02am
- B. 9.58am
- C. 9.38am
- D. 10.20am

26. Charles paid sh.4 800 from an item after getting 20% discount. How much more would he have paid if he was given 15% discount.

- A. Sh. 5 100
- B. Sh. 200
- C. Sh. 500
- D. Sh. 300

27. Calculate the area of the figure below.



- A. 294cm^2
- B. 308cm^2
- C. 602cm^2
- D. 910cm^2

28. Saruni bought the following item from a shop.

3 half litre packets of milk @sh.55

3kg rice @ sh.112

4½ litres of cooking oil @sh.136

3kg sugar @ sh.120

5 rolls of tissue for sh.150

If he paid using 2-1000 shillings notes how much balance did she get?

- A. Sh.1 623
B. Sh.1 923
C. Sh.377
D. Sh.77
29. The table below shows the number of children per family in an estate.

No. of families	2	3	4	5	6
No. of children per family	1	3	5	4	2

How many children are there in the estate?

- A. 63
B. 20
C. 15
D. 45
30. What is the value of

$$\frac{1}{2} \left(2\frac{1}{4} + 1\frac{1}{2} + 2\frac{1}{2} \times 1\frac{1}{3} \right)$$

- A. $4\frac{5}{6}$
B. $2\frac{5}{12}$
C. $2\frac{5}{7}$
D. $3\frac{5}{6}$
31. Which of the following expression is the simplest form of

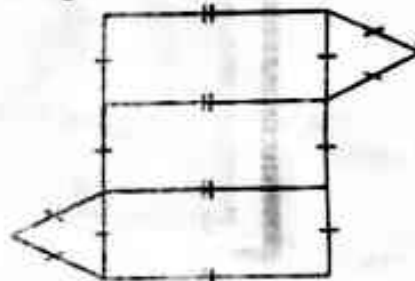
$$\frac{2(6x+3y)+3(x+2y)}{3(x-2y)}$$

- A. $\frac{5x+4y}{x+2y}$
B. $\frac{5x+4y}{x-2y}$
C. $\frac{15x+12y}{3x-6y}$
D. $\frac{15y+12x}{2y+6x}$

32. Jalas is a salesman and earns a basic salary of sh.19 000 and a 2.5% commission on the sales he make above sh.50 000. In one month he sold goods worth 450 000. How much did he earn that month?

- A. Sh.10 000
B. Sh.29 000
C. Sh.11 250
D. Sh.30 250
33. Charity is four times as old as her daughter. She is also six years younger than her husband. The sum of their ages ten years to come will be 117 years. How old is Charity today?
- A. 36
B. 40
C. 30
D. 46

34. The figure below is a net of a solid.



When folded which solid was formed?

- A. Triangular pyramid
B. Rectangular prism
C. Triangular prism
D. Square pyramid
35. How many days were there between 24th December 2020 to 31st March 2021?
- A. 96
B. 97
C. 98
D. 99

36. Nine pupils scored the following marks out of 50 in a science test.

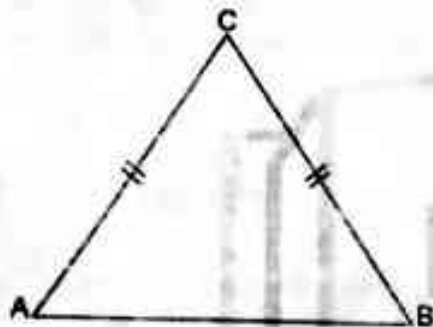
37, 32, 47, 28, 39, 43, 42, 36 and 38

What was the sum of mean and median?

- A. 38
B. 39
C. 76
D. 77

37. Safiri Salama bus arrived Busia on Wednesday 0825hrs after travelling for 9hrs 45min from Nairobi. What day and time had the bus left Nairobi?
- A. Wednesday 10.40pm
 B. Wednesday 6.10pm
 C. Tuesday 10.40am
 D. Tuesday 10.40pm

38. The diagram below shows an isosceles triangle ABC whose perimeter is 50cm. Line $AC = BC = 17\text{cm}$



What is the area of the triangle?

- A. 120cm^2
 B. 240cm^2
 C. 272cm^2
 D. 136cm^2
39. Kantet drove from Kimana to Emali at a constant speed of 84km/h for $2\frac{1}{2}$ hours. He drove back taking three hours to reach Kimana. What was the average speed for the whole journey?
- A. 70km/h
 B. $66\frac{2}{3}\text{km/h}$
 C. $76\frac{4}{11}\text{km/h}$
 D. 72km/h
40. By selling a TV for sh.45 000 Njeri made 10% loss. At what price should he have sold the TV to make 5% profit.
- A. Sh.50 000
 B. Sh.12 500
 C. Sh.47 250
 D. Sh.52 500

41. A cylindrical tank has a radius of 2.1m and a height of 1.2m. If the tank is $\frac{3}{4}$ full how many more litres are required to fill the tank?
- A. 16 632l
 B. 4 158l
 C. 12 474l
 D. 5 158l

42. The hire purchase price of a generator is 30% more than the marked price. The marked price is sh.200 000. Koach bought it on hire purchase paying 12 equal monthly instalments of sh.15 000. How much was the deposit?
- A. Sh.260 000
 B. Sh.180 000
 C. Sh.120 000
 D. Sh.80 000

43. The table below shows the amount in litres of a milk produced by a certain farm in one week. The production for Tuesday is not shown.

Days of the week	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Amount in litres	17	—	19	27	28	37	24

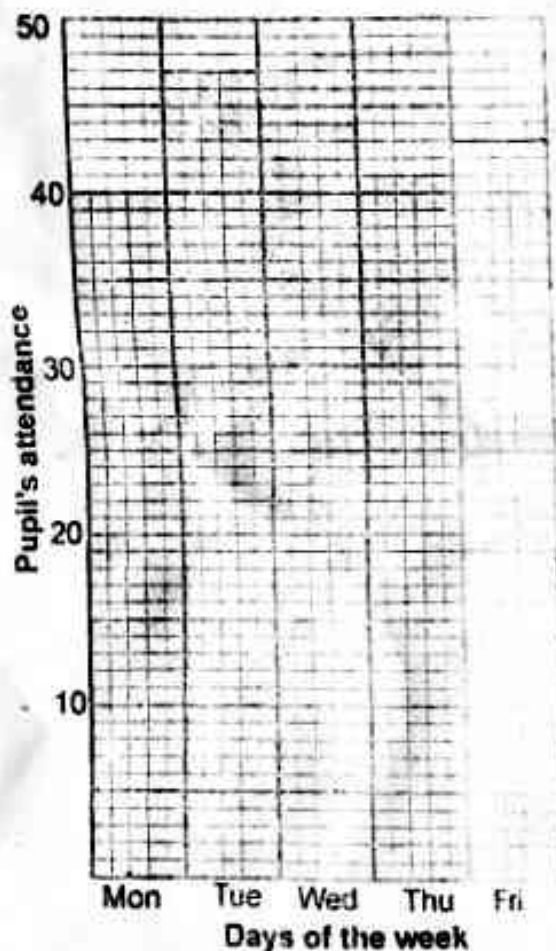
How many more litres of milk were delivered on Tuesday than on Monday if the total amount collected that week was sh.6 720 and the cost of one litre of milk was sh.40

- A. 21
 B. 6
 C. 24
 D. 4
44. A group of 36 men can do a job in 24 days. How many more days would the job take if 9 men fail to turn up?
- A. 8
 B. 32
 C. 36
 D. 12

45. A rectangular water tank measures 60cm by 50cm by 30cm. That tank contain water to a height of 0.18m. How many more litres are needed to fill the tank?

- A. 54 000l
- B. 54l
- C. 36000l
- D. 36l

46. The graph below shows the number of pupils attendance per day in one week in a class of 50 pupils.



What was the mean attendance for the week?

- A. 215
- B. 45
- C. 50
- D. 43

47. Which of the following is the next number in the sequence?

1, 4, 9, 16, _____

- A. 29
- B. 25
- C. 27
- D. 31

48. Mathematic text book has mass of 0.4kg. 40 such books are packed in a carton whose empty mass is 300 grams. What is the total mass in kilograms of 50 such cartons packed with books?

- A. 800kg
- B. 815kg
- C. 720kg
- D. 820kg

49. In a farm the number of animals are 288. Out of these 72 are cows and 96 are sheep. Half of the remainder are goats and the rest are chicken. If a pie chart was drawn, what angle would represent chicken?

- A. 90°
- B. 120°
- C. 60°
- D. 75°