



EXAMINATIONS COUNCIL OF ZAMBIA

GRADE SEVEN COMPOSITE EXAMINATION – 2021

Mathematics

SUBJECT 3/1

90 MINUTES

TD/M3/G7/2021

- 1 Read these instructions carefully.
- 2 **DO NOT** turn this page before you are told. Your teacher will tell you when to turn this page to begin the questions.
- 3 There are **60** questions in this **MATHEMATICS PAPER**. You will be given **EXACTLY 90 MINUTES** to do the questions.
- 4 For each question, four answers are given, but only one of the four is right. Work out which is the **BEST** answer. Then, on your **ANSWER SHEET**, mark the box completely by shading the answer space of the letter of your choice. If you had chosen answer **D** for a question, you would show it like this:-

A

B

C
- 5 You must **SHADE** your answer spaces **COMPLETELY** and **DARKLY** using an **HB** pencil. If you have to change your answer, you must rub out the shading **VERY NEATLY** before shading the new one. **USE A CLEAN RUBBER.**
- 6 When you have finished one page, go straight on without waiting to be told. If you have time left at the end of the question paper, use it to check your work carefully.
- 7 Look at your **ANSWER SHEET**. On the top left hand side are boxes which should have Examination Year, your School Number and Examination Number. It should also say **Subject 3 Paper 1**.
- 8 Look at your **ANSWER SHEET** again. At the bottom left hand side, it should have your Surname, Forename, Subject – **Mathematics**, Name of Primary School and your Secondary School of choice.
- 9 **PUT UP YOUR HAND NOW IF:** You have any question.
You have the wrong answer sheet.
You will **NOT** be able to ask questions once the examination has begun.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD.
USE ONLY AN HB / PENCIL FOR YOUR ANSWERS.

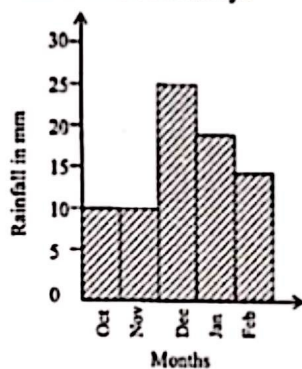
- 1 Find the difference between 2 700 and 2 300.

A 400
B 200
C 100
D 40

2
$$\begin{array}{r} 2\,375 \\ - 1\,276 \\ \hline 1\,159 \end{array}$$

A 3 721
B 3 601
C 1 269
D 1 159

- 3 The graph below shows the amount of rainfall for five months. What was the amount of rainfall recorded in February?



A 17 mm
B 16 mm
C 15 mm
D 14 mm

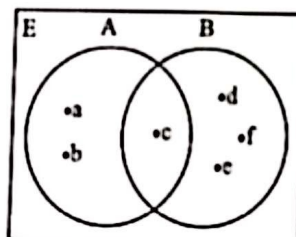
- 4 Express 5^4 in expanded notation.

A $5 \times 5 \times 5 \times 5$
B $5 + 5 + 5 + 5$
C 5×4
D $4 \times 4 \times 4 \times 4$

- 5 $33.14 - 14.02 =$

A 21.12
B 20.12
C 19.12
D 19.02

- 6 A woman sold 144 eggs on the first day, 108 eggs on the second day and 72 eggs on the third day. How many eggs did she sell altogether?
 A 180
 B 216
 C 252
 D 324
- 7 A bus had x passengers. On the way, 50 passengers got off and 15 remained on the bus. Find the value of x .
 A 80
 B 65
 C 50
 D 35
- 8 $3 \times 3 \times 3 \times 3 \times 3$ can be written in index notation as ...
 A 3^5 .
 B 5^3 .
 C 3×5 .
 D 5×3 .
- 9 Given that  represents 300 000 people in a town, how many people will be represented by ?
 A 900 000
 B 303 000
 C 297 000
 D 100 000
- 10 Convert 36% to a decimal number.
 A 0.036
 B 0.36
 C 3.6
 D 36.0
- 11 Look at the sets A and B below.



How many members are in the union set?

- A 1
 B 3
 C 4
 D 6

- 12 Convert $4\frac{1}{2}$ to an improper fraction.
- A $\frac{9}{2}$
 - B $\frac{9}{3}$
 - C $\frac{5}{2}$
 - D $\frac{4}{2}$
- 13 Add 467.342 to 461.29.
- A 828.532
 - B 828.632
 - C 928.532
 - D 928.632
- 14 A lady had \$40. She bought a dress and a pair of shoes and her change was \$7. How much did she spend?
- A \$33
 - B \$40
 - C \$47
 - D \$280
- 15 Change $\frac{4}{5}$ to a decimal number.
- A 8.0
 - B 0.8
 - C 0.4
 - D 0.08
- 16 If set $M = \{2, 3, 5, 7, 11\}$, the numbers in set M are called ...
- A composite numbers.
 - B natural numbers.
 - C odd numbers.
 - D Prime numbers.
- 17 $156 \times 300 =$
- A 468
 - B 4 680
 - C 46 800
 - D 468 000

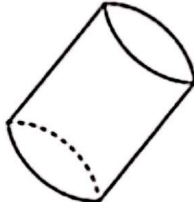
18 In Roman numerals, 106 is written as ...

- A XCVI.
- B CIV.
- C CVI.
- D CXVI.

19 Which of the shapes below is a cylinder?



A



B



C

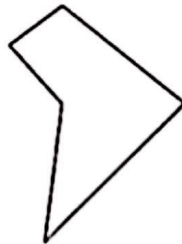


D

20 Given that Set A = {a, b, c} and Set B = {d, e, f, g}, $A \cap B$ equals ...

- A { }.
- B {a, b, c}.
- C {d, e, f, g}.
- D {a, b, c, d, e, f, g}.

21 The shape below is called a ...



- A Heptagon.
- B Hexagon.
- C Nonagon.
- D Pentagon.

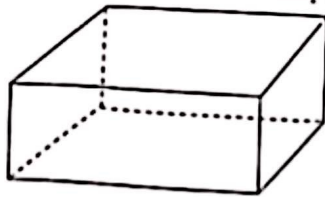
22 A man bought a car at K20 000.00. He later sold it and made a loss of 45%. Find the loss that he made.

- A K9 000.00
- B K900.00
- C K90.00
- D K9.00

- 23 Mrs Phiri bought the following items from a shop:
10 kg of bananas at K30.00,
2 packets of matches at K3.00,
5 packets of soap at K45.00 and
1 litre of milk at K9.00.
Find the total bill.
A K77.00
B K87.00
C K90.00
D K97.00
- 24 If there are 24 women and 6 men in a certain shop, what is the ratio of women to men in its simplest form?
A 2 to 1
B 2 to 4
C 4 to 1
D 4 to 2
- 25 269.748 to one decimal place can be expressed as ...
A 269.0.
B 269.7.
C 269.8.
D 270.0.
- 26 Find the Highest Common Factor of 6 and 12.
A 2.
B 3
C 6
D 12
- 27 Find the cost of 200 exercise books at K2.50 each.
A K80.00
B K197.50
C K202.50
D K500.00
- 28 $4.576 \times 100 =$
A 4 576
B 457.6
C 45.76
D 4.57

- 29 $416 \div 18 =$
 A 23 remainder 4
 B 23 remainder 3
 C 23 remainder 2
 D 23 remainder 1
- 30 How many metres make one kilometre?
 A 10 000m
 B 1 000m
 C 100m
 D 10m
- 31 Express 0.2 as a percentage.
 A 0.2%
 B 2%
 C 20%
 D 200%
- 32 The mode of 3, 6, 2, 9, 1, 2, 5, 6 and 2 is ...
 A 1.
 B 2.
 C 3.
 D 6.
- 33 Convert 76 to a number in base five.
 A 313_{five}
 B 303_{five}
 C 301_{five}
 D 300_{five}
- 34 Find the value of $12 \times (4 + 9)$.
 A 25
 B 37
 C 146
 D 156
- 35 A box has 1 477 oranges. Express the number of oranges in the box to the nearest hundred.
 A 1 600
 B 1 500
 C 1 400
 D 1 300

- 36 How many vertices does the shape below have?



- A 4
B 6
C 8
D 10
- 37 In a class of 25 learners, 10 are girls. Calculate the percentage of girls in the class.
A 10%
B 40%
C 60%
D 85%.
- 38 Which number line correctly shows $50 - 20$?
- A
- B
- C
- D
- 39 If $2 + x \geq 3$, then ...
A $x \geq 5$.
B $x \geq 1$.
C $x \leq 1$.
D $x \leq 5$.
- 40 Express the ratio 30 minutes to 2 hours in its lowest terms.
A 1 to 4
B 3 to 12
C 30 to 60
D 30 to 120

41 $3\frac{1}{3} + 1\frac{1}{6} =$

A $3\frac{1}{3}$

B $3\frac{8}{9}$

C $2\frac{6}{7}$

D $1\frac{5}{7}$

42 The lowest common multiple of 7 and 11 is ...

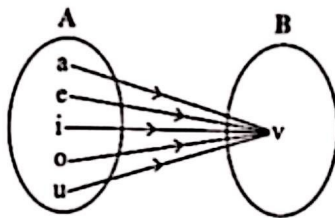
A 4.

B 18.

C 44.

D 77.

43 The mapping of members in the two sets shown below is known as ...



A many to one mapping.

B one to many mapping.

C one to one mapping.

D five to one mapping.

44 How many weeks are there in 364 days?

A 51 weeks

B 52 weeks

C 53 weeks

D 54 weeks

45 A string of length 139.2m was shared equally among 12 learners. How many metres of string did each learner get?

A 151.2m

B 127.2m

C 12.6m

D 11.6m

- 46 What is the next number in the sequence below?
3, 9, 27 ...
A 81
B 39
C 36
D 30
- 47 Which of the statements below is true?
A Three right angles make a straight angle.
B A right angle is half of a straight angle.
C A straight angle is equal to 360° .
D An acute angle is greater than 90° .
- 48 In Hindu-Arabic numeration, the Roman numeral MCDLXXVI can be written as ...
A 1 676.
B 1 674.
C 1 476.
D 1 474.
- 49 A cyclist covers a distance of 100km in 5 hours. Calculate her speed.
A 500km/h
B 105km/h
C 95km/h
D 20km/h
- 50 $142_{\text{five}} - 23_{\text{five}} =$
A 1114_{five}
B 120_{five}
C 121_{five}
D 165_{five}
- 51 Oranges are packed in 240 boxes. Each box contains 60 oranges. How many oranges are there altogether?
A 180
B 300
C 1 440
D 14 400
- 52 Order the integers below from the smallest to the largest.
 $+4, -1, 0, -4, 1$
A 1, 0, $+4$, -4 , -1
B -4 , -1 , 0, 1, $+4$
C 0, 1, -1 , -4 , $+4$
D 0, -1 , 1, $+4$, -4

- 53 Find the volume of a box which measures 6cm long, 4cm wide and 5cm high.
 A 15cm^3
 B 24cm^3
 C 30cm^3
 D 120cm^3
- 54 A table and 2 chairs cost K200.00 altogether. If the table costs K100.00, what is the cost of one chair?
 A K50.00
 B K100.00
 C K200.00
 D K300.00
- 55 Which of the following are prime numbers?
 A 2, 4, 6, 8
 B 2, 4, 5, 7
 C 2, 3, 5, 7
 D 2, 3, 4, 5
- 56 Divide 6 by $\frac{2}{3}$.
 A 2
 B 4
 C 6
 D 9
- 57
$$\begin{array}{r} 43_{\text{five}} \\ + 24_{\text{five}} \\ \hline \end{array}$$

 A 1222_{five}
 B 122_{five}
 C 112_{five}
 D 67_{five}
- 58 An item bought for K40.00 was later sold at K48.00. Calculate the percentage profit.
 A 20%
 B 40%
 C 48%
 D 80%
- 59 Find the total length of wire needed to make a cube of length 4cm.
 A 64cm
 B 48cm
 C 32cm
 D 12cm

60 $\frac{2}{3} + \frac{1}{5} =$

A $\frac{3}{8}$

B $\frac{2}{15}$

C $\frac{7}{15}$

D $\frac{13}{15}$

STOP! PLEASE CHECK ALL YOUR WORK CAREFULLY

1. A	28. B	55. C
2. D	29. C	56. D
3. D	30. B	57. B
4. A	31. C	58. A
5. D	32. B	59. B
6. D	33. C	60. D
7. B	34. D	
8. A	35. B	
9. A	36. C	
10. B	37. B	
11. D	38. A	
12. A	39. B	
13. D	40. A	
14. A	41. C	
15. B	42. D	
16. D	43. A	
17. C	44. B	
18. C	45. D	
19. B	46. A	
20. A	47. B	
21. D	48. C	
22. A	49. D	
23. B	50. A (114^{five})	
24. C	51. D	
25. B	52. B	
26. C	53. D	
27. D	54. A	