



EXAMINATIONS COUNCIL OF ZAMBIA

GRADE SEVEN COMPOSITE EXAMINATION – 2019

Mathematics

SUBJECT 3/1

90 MINUTES

TD/M3/G7/2019

- 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

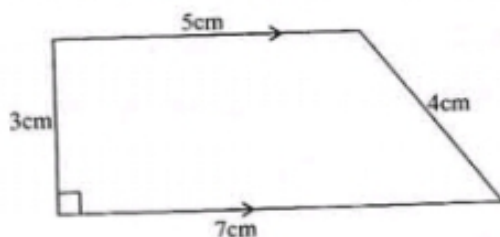
C
- 5 You must **SHADE** your answer spaces **COMPLETELY** and **DARKLY** using an **HB** pencil. If you have to change your answer, you must rub out the shading **VERY NEATLY** before shading the new one. **USE A CLEAN RUBBER.**
- 6 When you have finished one page, go straight on without waiting to 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.

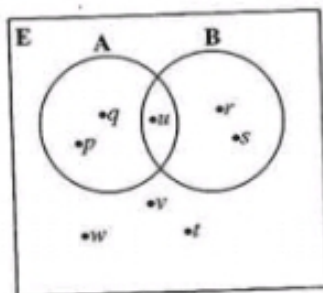
You will **NOT** be able to ask questions once the examination has begun.

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

- 1 The perimeter of the trapezium below is ...



- A 84cm.
 B 21cm.
 C 19cm.
 D 12cm.
- 2 Add 33 391 to 47 419.
 A 80 810
 B 80 800
 C 80 710
 D 80 700
- 3 The next two numbers in the sequence 5, 7, 9, 11, ... are ...
 A 12, 13.
 B 12, 14.
 C 13, 14.
 D 13, 15.
- 4 Look at the sets below.



List set $A \cup B$.

- A $\{p, q, t, w\}$
 B $\{t, u, v, w\}$
 C $\{p, q, r, s, u\}$
 D $\{p, q, r, v, w\}$

5 Express $8 \times 8 \times 8 \times 8 \times 8$ in index form.

- A 8^5
- B 8^4
- C 5^8
- D 4^8

6
$$\begin{array}{r} 964761 \\ -371892 \\ \hline \end{array}$$

- A 593 879
- B 593 869
- C 592 879
- D 592 869

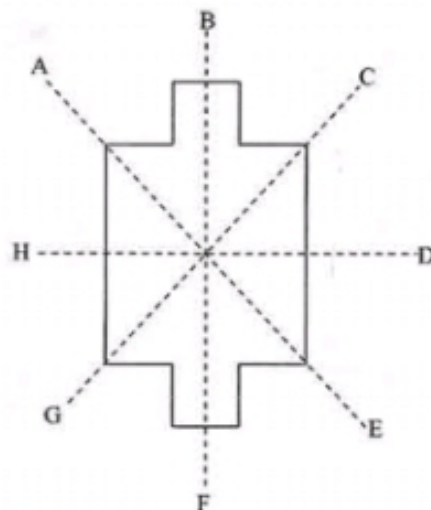
7 $3.257 - 0.075 =$

- A 3.282
- B 3.202
- C 3.182
- D 3.082

8 Change 60% to a decimal number.

- A 0.06
- B 0.6
- C 6
- D 60

9 The lines of symmetry in the diagram below are ...



- A AE and BF.
- B AE and DH.
- C BF and CG.
- D BF and DH.

- 10 Express the ratio 25cm to 5cm in its lowest terms.
 A 5 to 1
 B 4 to 1
 C 1 to 5
 D 1 to 4
- 11 A man bought two pieces of material measuring 1.75m and 1.5m. How many metres of material did he buy altogether?
 A 0.25m
 B 3.25m
 C 2.5m
 D 1.75m
- 12 10 packets of salt cost K200.00. How much will 8 packets of salt of the same type cost?
 A K20.00
 B K28.00
 C K160.00
 D K190.00
- 13 Given that Set A = {2, 3, 4, 5, 6, 7} and Set B = {1, 5, 7, 8}, list $A \cap B$.
 A {1, 2, 3, 4, 5, 6, 7, 8}
 B {2, 3, 4, 5, 6, 7}
 C {1, 5, 6, 7}
 D {5, 7}
- 14
$$\begin{array}{r} 297 \\ \times 36 \\ \hline \end{array}$$

 A 10 692
 B 825
 C 333
 D 261
- 15 In Arabic numerals, the Roman numeral DCCCXXXIV can be written as ...
 A 831.
 B 834.
 C 835.
 D 836.

$$\begin{array}{r} 16 \quad 6 \ 0 \ 7_{\text{eight}} \\ - 1 \ 3 \ 5_{\text{eight}} \\ \hline \end{array}$$

- A 570_{eight}
 B 550_{eight}
 C 470_{eight}
 D 452_{eight}
- 17 The Highest Common Factor of 12, 18 and 24 is ...
 A 2.
 B 3.
 C 6.
 D 12.
- 18 $413 \div 12 =$
 A 34 remainder 4
 B 34 remainder 5
 C 364 remainder 4
 D 364 remainder 5
- 19 Solve the inequation $x + 5 \leq 14$.
 A $x \leq 19$
 B $x \geq 19$
 C $x \geq 9$
 D $x \leq 9$
- 20 Arrange the following decimals from the smallest to the biggest:
 2.03, 1.40, 2.30, 1.04
 A 1.04, 1.40, 2.03, 2.30
 B 1.40, 1.04, 2.30, 2.03
 C 2.30, 2.03, 1.40, 1.04
 D 2.03, 2.30, 1.04, 1.40
- 21 Mrs Bwalya produced 14 163 bags of maize. She later sold 3 871 bags of maize. How many bags of maize remained?
 A 11 392
 B 11 292
 C 10 392
 D 10 292

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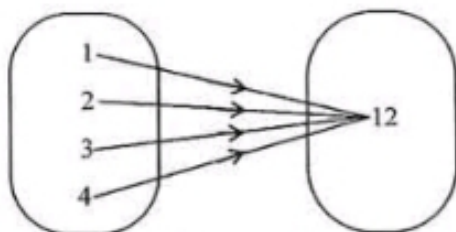
22 3 is a factor of ...

- A 28.
- B 27.
- C 17.
- D 16.

23 A meeting started at 10 30 hours and ended at 12 48 hours. How long did the meeting take?

- A 2 hours 18 minutes
- B 2 hours 42 minutes
- C 1 hour 42 minutes
- D 1 hour 18 minutes

24 The mapping shown in the diagram below is a ...



- A one-to-one mapping.
- B one-to-many mapping.
- C many-to-one mapping.
- D many-to-many mapping.

25 Convert 58 to a base five number.

- A 21_{five}
- B 213_{five}
- C 231_{five}
- D 312_{five}

26 $2\frac{2}{5} - 1\frac{3}{5} =$

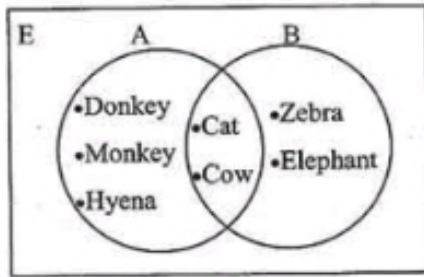
- A $\frac{1}{4}$
- B $\frac{1}{2}$
- C $\frac{2}{5}$
- D $\frac{4}{5}$

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- 27 A bed is bought at K1 000.00 and later sold at K1 500.00. Calculate the profit percentage.
- A 5%
 - B 33.3%
 - C 50%
 - D 66.7%
- 28 Calculate the simple interest on K10 000.00 invested for 4 years at a rate of 5% per annum.
- A K2 000.00
 - B K200.00
 - C K20.00
 - D K2.00
- 29 In the equation $y \div 4 = 9$, what is the value of y ?
- A 5
 - B 13
 - C 18
 - D 36
- 30 Find the value of $24 + (2 \times 3)$.
- A 114
 - B 74
 - C 30
 - D 29
- 31 Round off 4.78 to one decimal place.
- A 5.0
 - B 4.8
 - C 4.7
 - D 4.0
- 32 A 5-sided polygon is called a ...
- A rhombus.
 - B quadrilateral.
 - C pentagon.
 - D hexagon.

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- 33 The diagram below shows sets A and B.



The set $A \cap B$ has ... members.

- A 7
B 5
C 4
D 2

34 $1\frac{2}{5} + \frac{2}{3} =$

- A $2\frac{1}{15}$
B $1\frac{1}{2}$
C $1\frac{1}{8}$
D $\frac{8}{15}$

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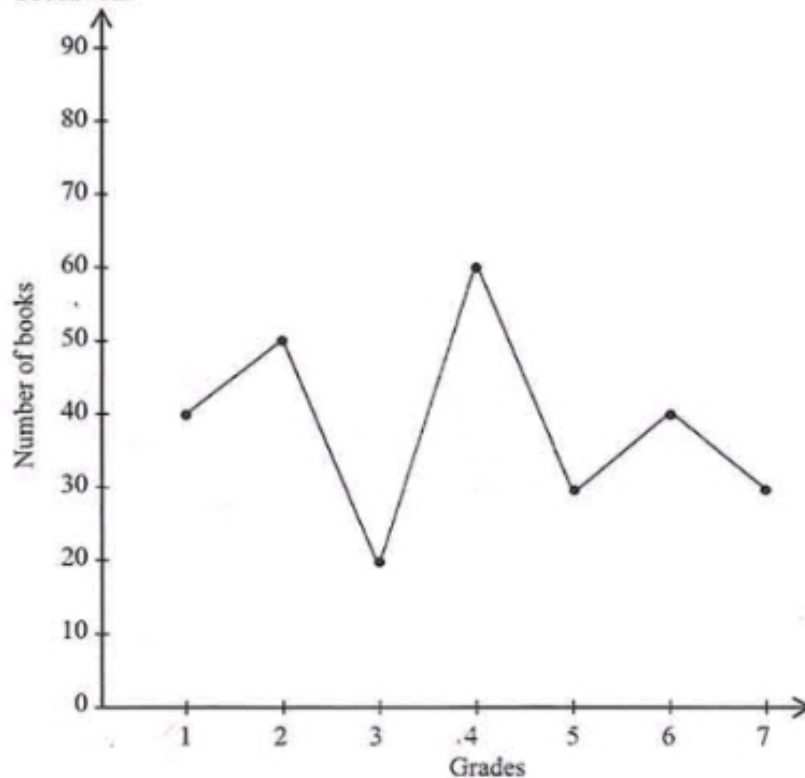
- 35 Mrs Moono bought a dress at K30.00 and later sold it at K42.00. Find the profit.

- A K72.00
B K12.00
C K10.00
D K2.00

- 36 In a meeting, there were 500 people. If 30% of the people were men, find the number of men.

- A 570
B 530
C 150
D 35

- 37 The graph below shows the number of books that different grades in a school received.



Which grade received the least number of books?

- A Grade 7
 - B Grade 5
 - C Grade 3
 - D Grade 1
- 38 A car travelled a distance of 320 kilometres in 4 hours. Calculate its speed.
- A 8 km/h
 - B 80 km/h
 - C 160 km/h
 - D 320 km/h
- 39 The angle marked x below is called ...



- A a straight angle.
- B a right angle.
- C an obtuse angle.
- D an acute angle.

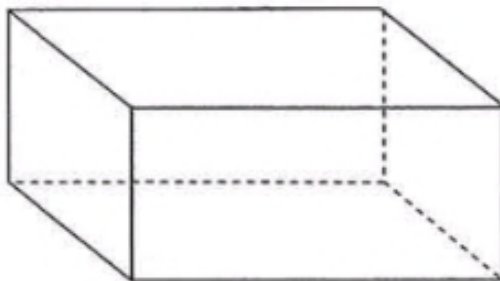
40 Express $\frac{2}{5}$ as a percentage.

- A 50%
- B 40%
- C 30%
- D 20%

41 $2.94 \div 1.4 =$

- A 4.34
- B 1.54
- C 2.1
- D 1.2

42 Study the shape below.



How many vertices does the shape have?

- A 10
- B 8
- C 6
- D 4

43 Round off 51 846 to the nearest hundred.

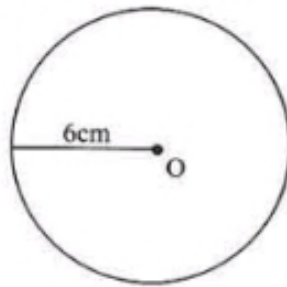
- A 51 840
- B 51 800
- C 51 000
- D 50 000

44 Express $\frac{7}{8}$ as a decimal.

- A 7.8
- B 1.1428
- C 0.875
- D 0.7

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- 45 Find the circumference of the circle below. (Take π as 3.14).



- A 75.36cm
B 37.68cm
C 27.14cm
D 15.14cm
- 46 If the exchange rate is K9.50 to \$1, how much is \$7 in kwacha?
A K66.50
B K66.00
C K63.50
D K63.00
- 47 Which of the Roman numerals is the smallest?
A LXIV
B LII
C XLI
D XLV
- 48 Find the value of 3^2 .
A 5
B 6
C 8
D 9
- 49 Divide $\frac{3}{5}$ by $\frac{2}{5}$.
A $1\frac{1}{2}$
B $3\frac{1}{10}$
C $3\frac{1}{7}$
D $\frac{6}{25}$

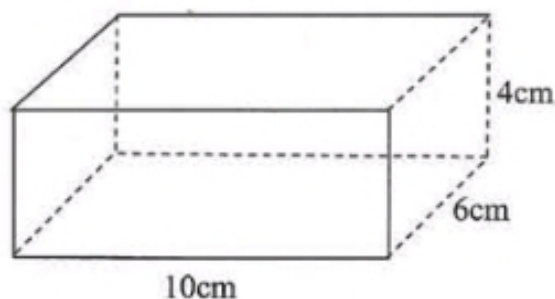
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- 50 $3 + (-7) =$
 A -10
 B -4
 C 4
 D 10
- 51 Find the median of 4, 3, 7, 5, 2, 1 and 6.
 A 2
 B 3
 C 4
 D 5
- 52 Mary bought a bicycle at K720.00. She was given 5% discount. How much was her discount?
 A K36.00
 B K715.00
 C K725.00
 D K3 600.00
- 53 12 men can construct a road in 4 months. How long will it take 8 men to do the same job working at the same rate?
 A 3 months
 B 4 months
 C 6 months
 D 8 months
- 54 Order the integers below from the smallest to the biggest.
 $-20, +50, +30, +9, -50$
 A $-20, +50, -50, +30, +9$
 B $-50, -20, +9, +30, +50$
 C $-50, +50, +9, -20, +30$
 D $+9, -20, +30, -50, +50$
- 55
$$\begin{array}{r} 232_{\text{five}} \\ + 123_{\text{five}} \\ \hline \end{array}$$

 A 410_{five}
 B 400_{five}
 C 310_{five}
 D 300_{five}

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- 56 What is $\frac{2}{3}$ of 12?
- A $\frac{1}{16}$
B 2
C 6
D 8
- 57 Mrs Bwembya had 552 oranges of the same size to be packed in boxes of the same size. If one box holds 24 oranges, how many boxes did she pack?
- A 23
B 24
C 528
D 576
- 58 Find the average of 15°C , 25°C and 20°C .
- A 20°C
B 25°C
C 30°C
D 60°C
- 59 Find the total surface area of the cuboid below.



- A 24cm^2
B 60cm^2
C 124cm^2
D 248cm^2
- 60 Find the Lowest Common Multiple of 3 and 6.
- A 3
B 6
C 9
D 12

STOP! PLEASE CHECK ALL YOUR WORK CAREFULLY