



02323935

**EXAMINATIONS COUNCIL OF ZAMBIA****GRADE SEVEN COMPOSITE EXAMINATION – 2022**

# Mathematics

SUBJECT 3/1

90 MINUTES

TD/M3/G7/2022

- 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:-



- 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 sum of 665 986 and 294 857.
- A 960 843
  - B 960 743
  - C 371 129
  - D 370 128

- 2 The graph shows the number of pens sold by a woman from Monday to Friday.

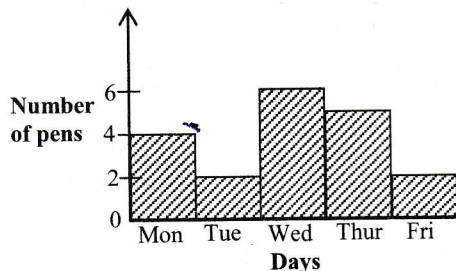


On which day did the woman sell the highest number of pens?

- A Friday
  - B Monday
  - C Tuesday
  - D Wednesday
- 3 Express  $4 \times 4 \times 4$  in index form.
- A  $4 \times 3$
  - B  $4^3$
  - C  $3 \times 4$
  - D  $3^4$
- 4 What is the next number in the sequence below?  
14, 11, 8 ...
- A 5
  - B 7
  - C 12
  - D 17
- 5  $18.082 + 3.371 =$
- A 11.353
  - B 11.453
  - C 21.353
  - D 21.453
- 6 If set  $A = \{a, b, c, e, f, g\}$  and set  $B = \{e, f, g, h, i, j, k\}$ , list  $A \cap B$ .
- A  $\{a, b, c, e, f, g, h, i, j, k\}$
  - B  $\{a, b, c, h, i, j, k\}$
  - C  $\{e, f, g\}$
  - D  $\{a, b, c\}$

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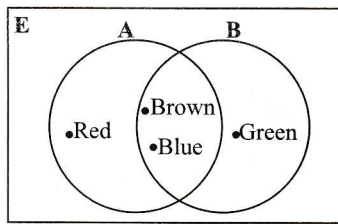
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  - C  $\{e, f, g\}$
  - D  $\{a, b, c\}$

- 7 Find the Highest Common Factor of 8 and 12.
- A 1
  - B 2
  - C 3
  - D 4
- 8 One village made 25 831 bricks and another village made 13 295 bricks. What was the total number of bricks made by the two villages?
- A 39 126
  - B 39 026
  - C 38 126
  - D 38 026
- 9  $924\,571 - 899\,009 =$
- A 25 578
  - B 25 572
  - C 25 568
  - D 25 562
- 10 
$$\begin{array}{r} 124 \\ \times 12 \\ \hline \end{array}$$
- A 1 598
  - B 1 588
  - C 1 498
  - D 1 488
- 11 The average mass of 5 bags of rice is 100kg. What is the total mass of the bags of rice?
- A 500kg
  - B 105kg
  - C 25kg
  - D 20kg
- 12 Arrange the numerals IX, VI, XV, IV from the smallest to the largest.
- A XV, IX, VI, IV
  - B IX, VI, XV, IV
  - C IV, VI, IX, XV
  - D VI, IV, XV, IX
- 13  $162 \div 18 =$
- A 9
  - B 144
  - C 180
  - D 2 916

- 14 The mass of a metal is 25.73kg. This mass when written to 1 decimal place is ...
- A 25.0kg.
  - B 25.7kg.
  - C 25.8kg.
  - D 26.0kg.
- 15 Express the ratio 4 : 12 : 24 in its lowest terms.
- A 1 : 3 : 6
  - B 1 : 4 : 6
  - C 1 : 6 : 8
  - D 1 : 6 : 3
- 16  $320.64 - 281.59 =$
- A 49.15
  - B 49.05
  - C 39.15
  - D 39.05
- 17  $(150 + 50) \div 10 =$
- A 15
  - B 20
  - C 60
  - D 200
- 18 A regular polygon with 4 sides is called a ...
- A square.
  - B rhombus.
  - C pentagon.
  - D hexagon.
- 19 The bus fare from town X to town Y is K300.00. How much would it cost 2 people to travel from town X to town Y?
- A K150.00
  - B K300.00
  - C K450.00
  - D K600.00
- 20 Convert 52% to a decimal number.
- A 0.052
  - B 0.52
  - C 5.2
  - D 52.0

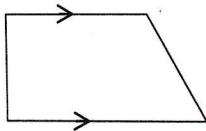
- 21 The Venn diagram shows set A and set B.



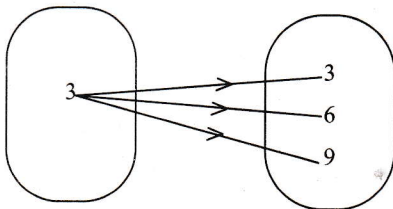
List the set  $A \cap B$ .

- A {red, brown, blue, green}  
 B {red, brown, blue}  
 C {brown, blue}  
 D {green}
- 22 Convert  $\frac{3}{25}$  to a percentage.  
 A 16%  
 B 12%  
 C 4%  
 D 3%

- 23 The shape below is called a ...



- A kite.  
 B rectangle.  
 C rhombus.  
 D trapezium.
- 24 Look at the diagram below.



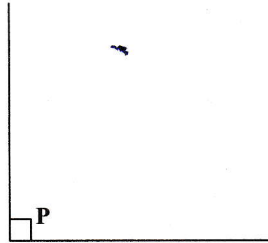
The mapping shown is a ...

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

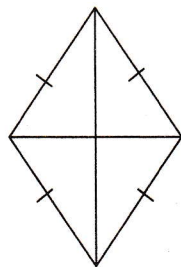
25 
$$\begin{array}{r} 1.35 \\ \times 3.2 \\ \hline \end{array}$$

- A 4.320
- B 4.310
- C 4.250
- D 4.210

26 The angle marked **P** below is called ...



- A an acute angle.
  - B an obtuse angle.
  - C a right angle.
  - D a straight angle.
- 27 Evaluate  $5^2$ .
- A 32
  - B 25
  - C 10
  - D 7
- 28 How many lines of symmetry does the shape below have?



- A 4
  - B 3
  - C 2
  - D 1
- 29 A tailor cut a piece of cloth 2.7 metres long and another piece of the same cloth 1.8 metres long. How many metres did she cut altogether?
- A 0.9 metres
  - B 1.9 metres
  - C 3.5 metres
  - D 4.5 metres

- 30 If 4 books cost K52.00, what is the cost of 2 books of the same type?  
 A K260.00  
 B K208.00  
 C K26.00  
 D K13.00
- 31 In Hindu-Arabic numerals, the Roman numeral MDXVI can be written as ...  
 A 1 516.  
 B 1 515.  
 C 1 510.  
 D 1 506.
- 32 Calculate the simple interest on K10 000.00 invested for 3 years at the rate of 5% per annum.  
 A K500.00  
 B K1 500.00  
 C K5 000.00  
 D K30 000.00
- 33 
$$\begin{array}{r} 3\ 2\ 4\ 1_{\text{five}} \\ + 2\ 3\ 1\ 4_{\text{five}} \\ \hline \end{array}$$
  
 A  $11110_{\text{five}}$   
 B  $11100_{\text{five}}$   
 C  $11010_{\text{five}}$   
 D  $11000_{\text{five}}$
- 34 A Grade 7 class has  $y$  number of boys and 39 girls. If the class has 72 learners altogether, find the value of  $y$ .  
 A 111  
 B 101  
 C 33  
 D 23
- 35 Convert 29 to a number in base five.  
 A  $104_{\text{five}}$   
 B  $34_{\text{five}}$   
 C  $24_{\text{five}}$   
 D  $14_{\text{five}}$
- 36 Find the Lowest Common Multiple of 3 and 4.  
 A 24  
 B 12  
 C 7  
 D 1

- 37 21 farmers shared 273 bags of seed equally. How many bags of seed did each farmer get?
- A 294
  - B 252
  - C 21
  - D 13
- 38  $\frac{4}{5} \times 20 =$
- A 4
  - B 5
  - C 16
  - D 25
- 39 A shopkeeper was given \$75. How much was it in Zambian Kwacha, if on that particular day, the exchange rate between the Zambian Kwacha and US Dollar was \$1 to K15.00?
- A K1 125.00
  - B K1 025.00
  - C K90.00
  - D K60.00
- 40 If  $w \div 4 \geq 4$ , then ...
- A  $w \leq 0$ .
  - B  $w \leq 1$ .
  - C  $w \leq 16$ .
  - D  $w \geq 16$ .
- 41 A man bought a pair of shoes at K130.00 and later sold it at K78.00. How much loss did he make?
- A K42.00
  - B K52.00
  - C K108.00
  - D K208.00
- 42  $-8 + (-2) =$
- A +10
  - B +6
  - C -6
  - D -10

- 43 Arrange the following integers from the smallest to the largest:  $-3, 6, 1, -5, -8$ .
- A  $-8, -5, -3, 1, 6$
  - B  $-3, -5, -8, 1, 6$
  - C  $6, 1, -8, -5, -3$
  - D  $6, 1, -3, -5, -8$
- 44 Which of the following is a prime number?
- A 9
  - B 6
  - C 3
  - D 1
- 45 What is the mode of 7, 3, 4, 9, 1, 3 and 8?
- A 1
  - B 3
  - C 4
  - D 5
- 46 Round off 3 576 to the nearest hundred.
- A 3 000
  - B 3 500
  - C 3 600
  - D 4 000
- 47  $3\frac{1}{2} + 1\frac{3}{5} =$
- A  $4\frac{3}{10}$
  - B  $4\frac{4}{7}$
  - C  $4\frac{1}{10}$
  - D  $5\frac{1}{10}$
- 48 A learner got 19 out of 25 marks in a Mathematics test. Express the marks the learner got as a percentage.
- A 76%
  - B 56%
  - C 44%
  - D 6%

49  $\frac{3}{11} \div \frac{1}{33} =$

- A 3
- B 6
- C 9
- D 99

50 49 books are to be shared between Sarah and Modrin in the ratio 4 to 3 respectively. How many books will Modrin get?

- A 7
- B 21
- C 28
- D 37

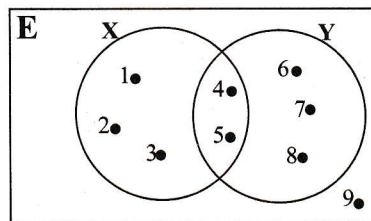
51 Find the circumference of a circle with a diameter of 4cm. ( $\pi = 3.14$ )

- A 6.28cm
- B 7.14cm
- C 12.56cm
- D 25.12cm

52 Mwape had \$36. He bought books and a pair of trousers and his change was \$7.50. How much did he spend?

- A \$270.00
- B \$43.50
- C \$29.00
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53 The diagram shows set X and set Y.



List set  $X \cup Y$ .

- A {1, 2, 3, 4, 5, 6, 7, 8, 9}
- B {1, 2, 3, 4, 5, 6, 7, 8}
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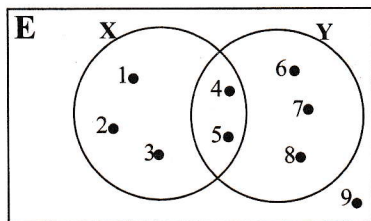
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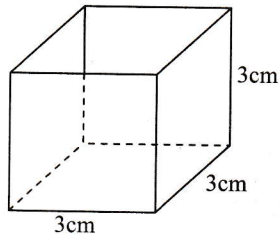
54  $1100_{\text{two}} - 101_{\text{two}} =$

- A  $100_{\text{two}}$
- B  $101_{\text{two}}$
- C  $110_{\text{two}}$
- D  $111_{\text{two}}$

55 A motorist travelled a distance of 100km in 2 hours. Calculate her speed.

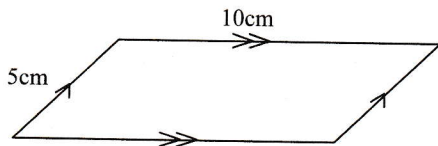
- A 50km/h
- B 98km/h
- C 102km/h
- D 200km/h

56 Calculate the total length of the edges of the shape below.



- A 3cm
- B 12cm
- C 36cm
- D 39cm

57 The perimeter of the parallelogram below is ...



- A 50cm.
  - B 30cm.
  - C 25cm.
  - D 15cm.
- 58  $646.5 \div 5 =$
- A 101.3
  - B 121.1
  - C 129.1
  - D 129.3

- 59 A boy walks a distance of  $3\frac{3}{5}$  km everyday. Find the total distance he walks in 3 days.
- A  $14\frac{2}{5}$  km
  - B  $10\frac{4}{5}$  km
  - C  $6\frac{3}{5}$  km
  - D  $1\frac{1}{5}$  km
- 60 Calculate the volume of a cuboid measuring 5cm long, 4cm wide and 2cm high.
- A  $40\text{cm}^3$
  - B  $22\text{cm}^3$
  - C  $20\text{cm}^3$
  - D  $11\text{cm}^3$

**STOP! PLEASE CHECK ALL YOUR WORK CAREFULLY**