



## EXAMINATIONS COUNCIL OF ZAMBIA

### GRADE SEVEN COMPOSITE EXAMINATION – 2014

# MATHEMATICS

**SUBJECT 3/1**

**90 MINUTES**

**TD/M3/G7/2014**

- 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 more than one answer to 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.

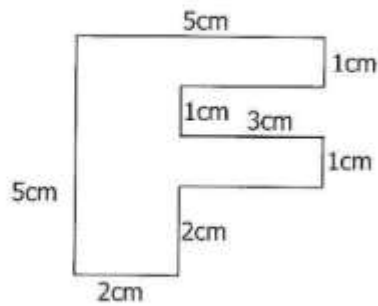
You have the wrong answer sheet.

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.**

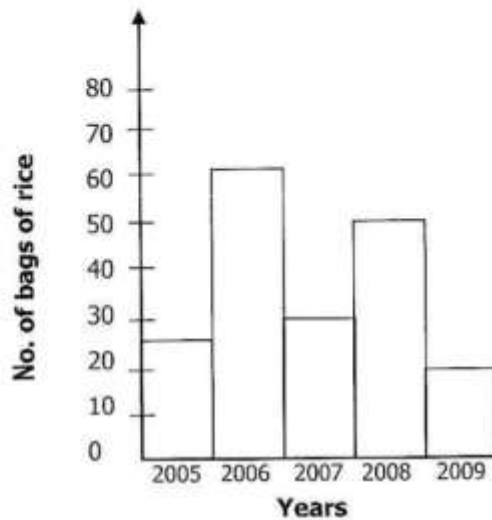
- 1 Find the perimeter of the shape below.



- A 20cm  
B 24cm  
C 25cm  
D 26cm
- 2 Add 4 189 to 5 811.  
A 1 622  
B 1 778  
C 10 000  
D 10 990
- 3  $43.102 + 2.784 + 4.110 =$   
A 94.996  
B 49.996  
C 49.699  
D 9.996
- 4  $60.215 \text{ litres} \times 3 =$   
A 183.645 litres  
B 183.635 litres  
C 180.645 litres  
D 180.635 litres

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- 5 The graph below shows the number of bags of rice produced by a farmer in five years. How many bags were produced in 2008?



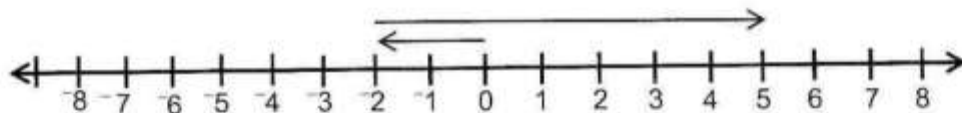
- A 60  
 B 50  
 C 30  
 D 25
- 6 Which symbol should be put in the box to make the statement below true?

$$243 \square 234$$

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- A  $<$   
 B  $=$   
 C  $<$   
 D  $>$

- 7 The number line below shows ...



- A  $-2 + (+7) = +5.$   
 B  $+2 - (+7) = +5.$   
 C  $-2 + (-7) = +5.$   
 D  $+2 + (+7) = +5.$

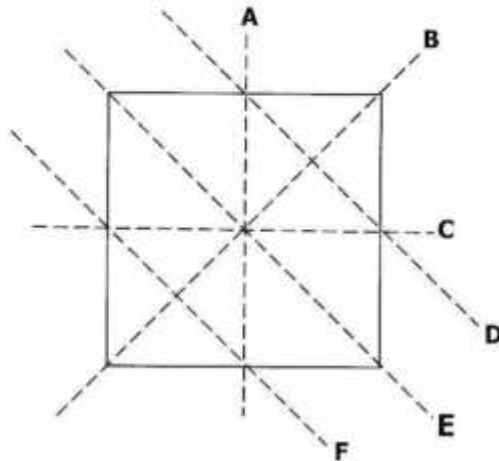
- 8  $\frac{3}{8} \times \frac{1}{2} =$
- A  $\frac{3}{4}$
- B  $\frac{2}{5}$
- C  $\frac{1}{3}$
- D  $\frac{3}{16}$
- 9 There are two boxes of oranges. One of the boxes contains 144 oranges while the other contains 156 oranges. How many oranges are packed in the boxes altogether?
- A 312
- B 300
- C 288
- D 150
- 10 Convert 0.25 to a percentage.
- A 25%
- B 20%
- C 5%
- D 4%
- 11 The smallest four digit number that can be formed using the digits 4, 1, 3 and 2 is ...
- A 4 321.
- B 3 421.
- C 2 143.
- D 1 234.
- 12 If  $x + 12 = 35$ , then  $x$  is ...
- A 47.
- B 23.
- C -13.
- D -47.
- 13 Set A = {dress, shoes, bag, hat} and Set B = {bag, coat, shirt, dress}. List the set  $A \cap B$ .
- A {dress, bag}
- B {coat, dress}
- C {shoes, bag}
- D {shirt, coat}

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- 14** If a car travels at an average speed of 80 kilometres per hour for 3 hours without stopping, what distance would be covered?
- A** 300km
  - B** 250km
  - C** 240km
  - D** 120km
- 15** What is the sum of 4 249 and 867 113?
- A** 861 362
  - B** 862 864
  - C** 871 352
  - D** 871 362
- 16** In words, 169 729 can be written as ...
- A** one hundred sixty-nine seven hundred twenty-nine.
  - B** one hundred sixty-nine million seven hundred twenty-nine.
  - C** one hundred sixteen thousand nine hundred seventy two nine.
  - D** one hundred sixty-nine thousand seven hundred twenty-nine.
- 17** Set A = {2, 4, 6, 8} and set B = {1, 2, 3, 4}. List the union of set A and set B.
- A** {1, 2, 3, 4, 6, 8}
  - B** {1, 2, 3, 4}
  - C** {1, 2, 4, 6, 8}
  - D** {2, 4, 6, 8}
- 18** Multiply 284 by 128.
- A** 35 252
  - B** 35 352
  - C** 36 252
  - D** 36 352
- 19** 1 000 000 – 328 746 =
- A** 670 254
  - B** 671 154
  - C** 671 254
  - D** 672 254
- 20** K5 002.00 – K1 342.00 =
- A** K4 660.00
  - B** K4 360.00
  - C** K3 660.00
  - D** K3 360.00
- 21** Subtract 213.78 from 376.34.
- A** 162.65
  - B** 162.56
  - C** 126.65
  - D** 126.56

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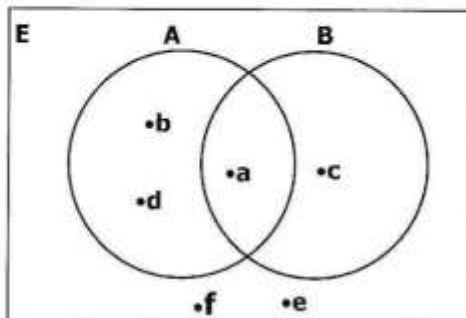
22 Look at the square below.



The lines of symmetry are . . .

- A A, B, C and D.
- B A, B, D and E.
- C A, B, E and F.
- D A, B, C and E.

23 Look at the Venn diagram below.



Set A equals . . .

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

24 What would be the cost of 15 litres of petrol, if 1 litre costs K10.00?

- A K25.00
- B K105.00
- C K150.00
- D K250.00

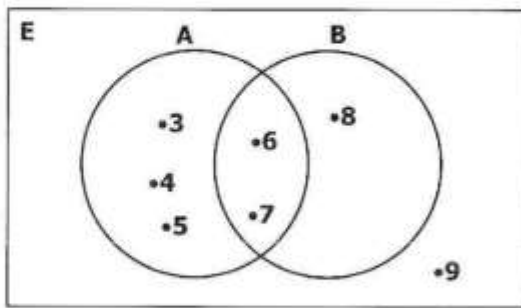
25  $20.5^{\circ}\text{C} - 11.3^{\circ}\text{C} =$

- A  $9.2^{\circ}\text{C}$
- B  $9.8^{\circ}\text{C}$
- C  $19.2^{\circ}\text{C}$
- D  $31.8^{\circ}\text{C}$

- 26** The average mass of 6 girls is 40kg. The total mass of the girls is ...
- A** 260kg.
  - B** 250kg.
  - C** 240kg.
  - D** 204kg.
- 27** K150 240.00 + K82 205.00 + K13 250.00 =
- A** K254 695.00
  - B** K254 596.00
  - C** K245 956.00
  - D** K245 695.00
- 28** Write the Roman numeral LXIV in Hindu-Arabic numerals.
- A** 64
  - B** 66
  - C** 114
  - D** 514
- 29** In its lowest terms, the ratio 7 : 21 : 42 can be written as...
- A** 1 : 3 : 6.
  - B** 3 : 1 : 6.
  - C** 1 : 2 : 5.
  - D** 2 : 1 : 5.
- 30** Joshua bought 18 pens. He gave  $t$  of them to her sister and remained with 11. Find the value of  $t$ .
- A** 6
  - B** 7
  - C** 28
  - D** 29
- 31** Mulenga got 40 marks out of 50 in a Mathematics test. Convert these marks to a percentage.
- A** 40%
  - B** 50%
  - C** 80%
  - D** 100%
- 32** Find the sum of 352.79km, 400km and 39.5km.
- A** 792.29km
  - B** 360.74km
  - C** 79.229km
  - D** 36.074km

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33 Look at the Venn diagram below.



How many members are in set B?

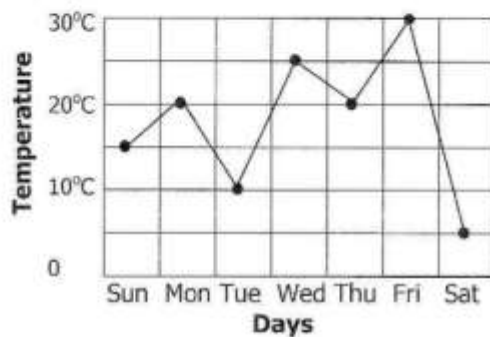
- A 1
- B 2
- C 3
- D 6

34 A lady bought a radio at K600.00 and sold it at a price of K750.00 later on. How much profit did she make?

- A K100.00
- B K150.00
- C K250.00
- D K1 350.00

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35 The graph below shows temperatures recorded at a place in one week.



On which day was the lowest temperature recorded?

- A Friday
- B Sunday
- C Tuesday
- D Saturday

36  $35\,900 \div 50 =$

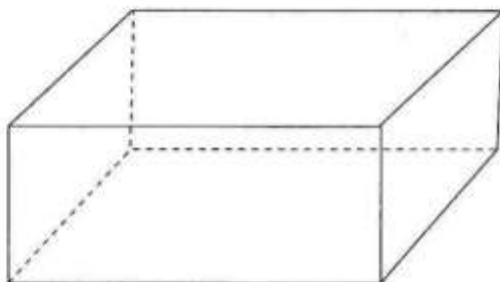
- A 718
- B 35 085
- C 35 805
- D 35 850



- 37** 150 books were shared among John, Luke and Grace in the ratio 1 : 2 : 3 respectively. How many books did Luke receive?

**A** 75  
**B** 50  
**C** 25  
**D** 15

- 38** The cuboid below has ...



**A** 8 vertices and 6 faces.  
**B** 8 vertices and 8 faces.  
**C** 6 vertices and 8 faces.  
**D** 6 vertices and 6 faces.

- 39** Convert  $\frac{8}{25}$  to a decimal fraction.

**A** 32.0  
**B** 3.2  
**C** 3.125  
**D** 0.32

- 40** Write 500 metres to 1 kilometre as a ratio in its lowest terms.

**A** 1 : 2  
**B** 1 : 4  
**C** 1 : 20  
**D** 1 : 40

- 41** Convert 8 500 grams to kilograms.

**A** 85 kilograms  
**B** 8.5 kilograms  
**C** 0.85 kilograms  
**D** 0.085 kilograms

- 42**  $214 \times 42 =$

**A** 8 988  
**B** 8 986  
**C** 8 888  
**D** 1 382

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43 Which of the following statements is true?

- A  $-1 < -3$
- B  $-1 < -4$
- C  $-2 > -5$
- D  $-3 > 0$

44 An angle which is less than  $90^\circ$  is called ...

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

45  $3\frac{2}{3} \div 1\frac{1}{9} =$

- A  $4\frac{2}{27}$
- B  $4\frac{1}{4}$
- C  $3\frac{3}{10}$
- D  $3\frac{2}{3}$

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46 A school has 1 575 pupils. If there are 45 pupils in every class, how many classes are there in the school?

- A 105
- B 35
- C 15
- D 5

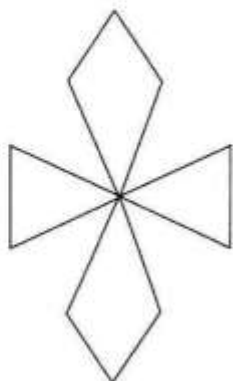
47 Calculate the average mass of three girls with masses of 50kg, 35kg and 29kg.

- A 29kg
- B 35kg
- C 38kg
- D 50kg

48  $\frac{1}{2}$  of K15 550.00 is ...

- A K7 575.00
- B K7 755.00
- C K7 757.00
- D K7 775.00

- 49**  $156_{\text{eight}}$  in base ten is ...
- A** 146.
  - B** 110.
  - C** 98.
  - D** 56.
- 50** The difference between 5 072 and 30 125 is ...
- A** 250 0053.
  - B** 35 197.
  - C** 25 053.
  - D** 2 593.
- 51** A cuboid has a volume of  $240\text{cm}^3$ . If the length of the cuboid is 10cm and the width is 6cm, find the height.
- A** 2cm
  - B** 4cm
  - C** 6cm
  - D** 8cm
- 52** How many lines of symmetry does the shape below have?



- A** 0
  - B** 1
  - C** 2
  - D** 4
- 53**  $2.413 \times 2.1 =$
- A** 4.0673
  - B** 5.0673
  - C** 40.673
  - D** 50.673
- 54** Joyce and Jane bought 20 100 pockets of cement altogether. If Jane got 9 001 pockets of cement, how many pockets of cement did Joyce get?
- A** 29 101
  - B** 11 199
  - C** 11 099
  - D** 11 009

- 55 A wholesaler delivered 204 crates of bottles of soft drinks to a shop. If one crate had 24 bottles of soft drinks, how many bottles of soft drinks were delivered?
- A 228
  - B 756
  - C 1 224
  - D 4 896
- 56 In a class of 45 pupils, 24 are boys. Express the number of boys in base five.
- A  $10_{\text{five}}$
  - B  $14_{\text{five}}$
  - C  $40_{\text{five}}$
  - D  $44_{\text{five}}$
- 57 Find the area of a rectangle measuring 25cm by 12cm.
- A  $300\text{cm}^2$
  - B  $250\text{cm}^2$
  - C  $240\text{cm}^2$
  - D  $37\text{cm}^2$
- 58 Mwale has K80.00 and buys 4 loaves of bread at K4.00 each, 2 packets of sugar at K12.00 each and fish for K35.00. What is Mwale's change?
- A K320.00
  - B K127.00
  - C K29.00
  - D K5.00
- 59 Mrs Chanda spent K20.00 out of K200.00. What fraction of the money did she spend?
- A  $\frac{1}{5}$
  - B  $\frac{1}{10}$
  - C  $\frac{1}{100}$
  - D  $\frac{2}{25}$
- 60 22% of 2 000 is ...
- A 44 000.
  - B 4 400.
  - C 440.
  - D 40.

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