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**EAGLE EXAMINATION BOARD**

**MOCK EXAMINATION 2023 SET II**

MATHEMATICS

**Time Allowed: 2 HOURS 30 MINUTES**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Random No.** | | | | | | **Personal No.** | | |
|  |  |  |  |  |  |  |  |  |

**Index No.**

**Pupil’s Name:** …………………………………………………………………………….………

**School Name:** ……………………………………………………………………………………..

**Read the following instructions carefully:**

**FOR EXAMINER’S USEONLY**

The paper has **two** sections: **A** and **B**

1. Section **A** has 20 short questions (40 marks)

|  |  |  |
| --- | --- | --- |
| **FOR EXAMINER’S USE ONLY** | | |
| **Qn. No** | **MARK** | **SIGN** |
| **1 – 10** |  |  |
| **11 – 20** |  |  |
| **21 – 30** |  |  |
| **31 – 32** |  |  |
| **TOTAL** |  |  |

1. Section **B** has 12 questions (60 marks)
2. Answer **ALL** questions. All answers to both Sections A and B must be written in the spaces provided.
3. All answers must be written using a blue or black ball point pen or ink. Diagrams should be drawn in pencil.
4. Unnecessary alteration of work may lead to loss of marks.
5. Any handwriting that cannot be easily read may lead to loss of marks.
6. Do**NOT** fill anything in the ***boxes indicated for Examiner’s use only***.

**SECTION A**

1. Simplify: **8m + n + m**
2. Express 97 as Roman Numerals
3. Work out  **+**
4. Given that ***a = -2, b = 3*** and **c = 4**. Find the value of **b(a2 + c).**
5. Given that W = {c, o, m, p, a} = {m, o, p, e, l}. List all the subsets in **WM.**
6. Write 369,046 in words.

……………….………………………………………………………………………………………………………………………………………………………………………………………………………………

1. The cost of one book is sh. 400. Find the cost of 3 dozen of books.
2. Using a ruler and a pair of compasses only, construct an angle of 300.
3. Describe the unshaded part in the Venn diagram below.

**P**

**R**

1. The complement of 2r – 200 is 400. Find the size of the larger angle.
2. Work out:-4 - +5
3. Find the median of 24, 16, 25, 33, 20 and 15.
4. The sum of two numbers is 7 and their difference is 1. Find the two numbers.
5. Find the distance around the figure below.

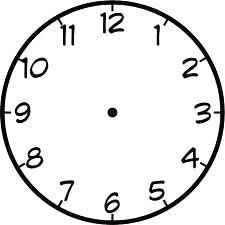
Take pie as

**14m**

1. Ann had 12 pens she gave 4 of them to her friends. Later the mother gave her 2 more pens, then Ann shared the pens equally between 2 pupils. How many pens did each pupil get?
2. Find the value of **r** in the figure below.

**640**

**r**

1. Express 5400 square meters as hectares.
2. Use the clock face below to show a quarter to 5 O’clock.

1. Otim used 15litres of oil. This wasof what he had. How many litres of oil did he have at first?
2. A meeting started at 12:20pm and ended at 4:30pm. How long was the meeting?

SECTION B: 60 MARKS

*Answer all the questions in this section.*

*Marks for each question are indicated in brackets.*

1. The diagram below is made up of a semicircle and right angled triangle. Use it to answer the questions that follow.

12cm

16cm

1. Find the length of the diameter of the semicircle. (02marks)
2. Calculate the perimeter of the shaded part. (Take *π* as 3.14) (03marks)
3. a) Write 523.4 in standard form. (02marks)

b) Solve: 2n x 8 = 64 (03marks)

1. In a class of 50 pupils, 8 pupils passed both Maths and English, 22 passed English, (y + 8) pupils passed Maths only while (y – 2) passed neither.
2. Use the above information to complete the venn diagram below.

(03marks)

n(∑) =50

n(E) =22

n(M) =

\_\_\_\_\_\_\_

\_\_\_\_\_\_\_

8

\_\_\_\_\_\_\_

1. Find how many pupils passed Mathematics. (03marks)
2. The table below shows number of pupils in a P7 class who were absent during the week. Use it to answer the questions that follow.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Day | Monday | Tuesday | Wednesday | Thursday | Friday |
| Number of pupils | 10 | 5 | 20 | 15 | 10 |

1. If health workers visited the school for vaccination, which day had more pupils vaccinated? (01mark)
2. If the class had a total of 70 pupils, find the average number of pupils who attended that week. (03marks)
3. At a certain school, are girls? One day, all boys came to school andof the girls were absent.
4. What fraction of the school was present? (03marks)
5. If 200 pupils were present that day, what is the enrolment of the school?

(02marks)

1. The exterior angles of the given figure are 900, 3x + 100, 5x – 50 and 6x + 150.

**6x + 150**

**B**

**D**

**A**

**C**

**4x + 100**

**5x - 100**

1. Find the value of X. (03marks)
2. What is the size of angle BCD? (02marks)
3. Mutesi went for shopping and bought the following;

2 bars of soap for sh. 13,000(01mark)

3kgs of sugar for sh. 4,500 per kg

6 apples at sh. 2500 for 3 apples

1. Find the cost of apples.
2. Work out the total cost of all the items. (02marks)
3. If Mutesa has sh. 50,000, what was her change? (02marks)
4. a) A water melon weighs 17kg. A mother cut it into three pieces. When she weighted the pieces, one piece weighs 2kg lighter than the largest piece and 6kg heavier than the smallest piece. Find the mass of the smallest piece. (03marks)

b) Solve: -3p<12

1. a) Using a pair of compasses, a ruler and a pencil only, construct a quadrilateral ABCD where AB = 3.6cm, BC = 5.1CM, CD = 4.8cm and AD = 3CM.

b) Measure diagonal AC.

1. a) Work out: (03marks)

b) Change to decimal number.(02marks)

1. A motorist drove for 3 hours at an average speed of 90km/h. he then travelled at an average speed of 70km/h for 2hours.
2. Find the average speed of the motorist for whole journey. (03marks)
3. If one litre of fuel covers 20km, how many fuel did the motorist use for the first journey? (02marks)
4. The volume of the cuboid below is **918cm3**. Find the area of the shaded part. (05marks)

**17cm**

**6cm**

**K**

**END**

***Turn over***

EAGLE EXAMINATIONBOARD

**MOCK MATHEMATICS - MARKING GUIDE**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. | 8m + n + m  8m + m + n  9m + n | B2 | for the correct response |
| 2. | 90 + 7  XC VII  97 = XCVII | M1  A1 | for the correct working  for the correct response |
| 3. | + =  =  = 1 | M1  A1 | for the correct working  for the correct response |
| 4. | b(a2 + c) = 3(-22 + 4)  3(-22 + 4) = 3(4 + 4)  = 3(8)  = 24 | M1  A1 | for the correct substitution  for the correct answer |
| 5. | W = {c, o, m, p, a}  M = {m, o, p, e, l}  WM = {m, o, p}  {m, o, p}, {m, o}, {m, p}, {o, p}, {m}, {o}, {p}, { } | B1  B1 | for the intersection set.  for the subsets correctly listed |
| 6. | THOUSANDS UNITS  369 046  Three hundred sixty – nine thousand, forty – six | M1  A1 | for the correct working  for the correct response |
| 7. | 1 dozen = 12 books  3 dozens = 12 x 3  = 36 books  1 book costs sh. 400  36 books cost 400 x 36  Sh. 14,400 | B1  B1 | For no. of books in 3 dozen  For the cost of 36 books |
| 8. |  |  |  |
| 9. | (PR) or P only | B2 |  |
| 10. | 2r – 200 + 400 = 900  2r + 200 = 900  2r + 200 – 200=900 - 200  350  0  =  r = 350  The larger angle is 900 – 400  500 | B1  B1 | For the value of r  For the size of the bigger angle |
| 11. | - 4 – (+5) = - 4 – 5  = - 9 | M1  A1 |  |
| 12. | 15, 16, 20, 24, 25, 33  20 + 24 = 44  2 2  = 22 | M1  A1 |  |
| 13. | Let one of the numbers be m the second no. be (7 – m)  m – (7 – m) = 1  m – 7 + m = 1  2m – 7 = 1  2m – 7 + 7 = 1 + 7  4  ~~2~~m = ~~8~~  7 – 4 = 3  ~~22~~  m = 4.  The numbers are 3 and 4 | B1  B1 | For the correct working and response  For the correct numbers. |
| 14.  4 | Perimeter = D + D  x x ~~28~~m + 28m  22m+ 28m  50m | M1  A1 | For the correct working  For the correct response |
| 15. | 12 – 4 = 8  8 + 2 = 10  10 ÷ 2 = 5  Each pupil got 5 pens | M1  A1 | For correctly carrying out the operations  For the correct response |
| 16. | r  640  r + r + 640 = 1800  2r + 640 = 1800  2r + 640 – 640 = 1800 – 640  ~~2~~r = ~~116~~0  ~~22~~  r = 580 | M1  A1 | For forming the correct equation  For the correct response |
| 17. | 10,000m2 = 1 hectare  5400m2 = 54~~00~~  100~~00~~  = 0.54 hectares | M1  A1 | For the correct working  For the correct response |
| 18. | ANd9GcR7AH2cxT8zB9zkVGj_I0xhyju5eWS8n1vqKnbdvcRG1jEQq3t0 | B1  B1 | For the minute hand  For the hour hand slightly before 5 |
| 19. | Let the no. of litres be k.  k = 15  K = 15 x 3  K = 45 litres | M1  A1 |  |
| 20. | Start 12 : 20pm = 12 20hours  End 4 : 30pm = 16 30hours  H Min  16 30   * 12 20   4 10  4 hours and 10 minutes. | M1  A1 |  |
| 21a) | **SECTION: B**  16cm  12cm  P  P2 = 122 + 162  P2 = 144 + 256  2 =  P = 20cm | M1  A1 |  |
| b)  1.57 | D + 12cm + 16cm  x ~~3.14~~ x 20cm + 28cm  (31.4 + 28)cm 31.4cm  59.4cm + 28.0cm  59.4cm | M1  A1 |  |
| 22a) | 523.4 ÷ 10 = 52.34  52.34 ÷ 10 = 5.234  5.234 x 102 | M1  A1 |  |
| b) | 2n x 8 = 64 2 64  2n x 23 = 26 2 32  2n +3 = 26 2 16  n + 3 = 6 2 8  n + 3 – 3 = 6 – 3 2 4  n = 3 2 2  =26 | M1  M1  A1 | For prime factorizing 64 correctly  For forming the correct equation  For the correct response |
| 23a) | (y+8)  \_\_\_\_\_\_\_  14  Y – 2  n(E) =22  n(M) =  n(∑) =50  8 | B1  B1  B1 | For correctly entering (y+8)  For 14 correctly entered  For correctly entering y – 2 |
| b) | Y+8+8+14+y-2 = 50  2y+16+14 – 2 = 50  2y + 28 = 50  2y+28 – 28 = 50 – 28  11  ~~2~~y = ~~22~~  ~~2 2~~  Y = 11  n(Mathematics) = 11 + 8 + 8  = 27 | B1  B1 | For correct working and value of y  For the correct response |
| 24a) | Tuesday | B1 |  |
| b) | 60+65+50+45+60  5  56  ~~280~~  ~~5~~  1  56 | M1  M1  A1 | For adding correctly  For correctly dividing  For the correct answer |
| 25a) | Fraction of boys - =  Fraction of girls present  - =  x =  Total fraction present  2  1  - =  = 1  2 | B1  B1  B1 | For the correct fraction of boys  For the correct fraction of girls present  For the total fraction present |
| b) | 1 rep 200  2  2 parts rep (200 x 2)  2  = 400 pupils | M1  A1 |  |
| 26a) | 6x+150+5x-100+4x100+900 = 3600  6x+5x+4x+900+150+100 = 3600  15x + 1050 = 3600  15x+1050 – 1050 = 3600 - 1050  17  ~~15~~x =~~255~~~~0~~  ~~15 15~~  X = 170 | M1  M1  A1 | For forming the correct equation  For collecting like terms  For the correct value of x |
| b) | Angle BCD  1800 – (4x + 100)  1800 – (4x17+100)  1800 – 780  1020 | M1  A1 | For correct substitution and subtraction  For the correct response |
| 27a) | Cost of apples  2  2500 x ~~6~~ = sh. 5,000  ~~3~~ | B1 | For the correct cost of apples |
| b) | Sugar sh. 4500  X 3  Sh. 13,500  Total sh. 13500  sh. 13000  +sh. 5000  sh. 31,500 | B1  B1 | For the cost of sugar  For the correct total |
| c) | sh. 50,000  - sh. 31,500  sh. 18,500 | M1  A1 | For the correct working  For the correct response |
| 28a) | Let the smallest piece weigh gkg the lighter piece weigh (g+6)kg the heavier piece weigh (g+2+6)kg.  But g+g+6+g+2+6 = 17  3g +14 = 17  3g + 14 – 14 = 17 – 14  3g = 3  3 3  g = 1kg  The smallest piece weighs 1kg | M1  M1  A1 | For forming the correct equation  For collecting like terms correctly  For the correct response |
| b) | -3p < 12  -~~3~~p>12  -~~3~~ -3  P > - 4 | M1  A1 | For change of sign and dividing both sides by -3  For the correct answer |
| 29  D | Sketch  C  4.8cm  5.1cm  3cm  3.6cm  B  A | S1  L1  L1  L1  L1 | For the correct sketch  For AB  For BC  For CD  For DA |
| a) | 2.2 x 0.45  0.5 x 0.6  1  1  ~~2~~  3  15  11  ÷  33 = 3.3  10 | M1  M1  A1 |  |
| b) | 0.6  5 30  6x5 -30  - -  = 0.6 | M1  A1 | For the correct working  For the correct answer |
| 31a) | 90km x 3~~h~~ = 270km  ~~h~~  70km x 2~~h~~ = 140km  ~~h~~  total 410km  82  ~~410~~ = 82km/h  ~~5~~ | B1  B1  B1 | For 270km  For 410km  For the correct working and answer |
| b) | 20km 1litre  1km litre  20  410 1 x 41~~0~~  2~~0~~  410km requires 20 litres | M1  A1 | For the correct works  For the correct response |
| 32a) | Volume = L x w x h  L x w x h = 17cm x k x 6cm  17 x 6 x k = 918  9  ~~102~~k = ~~918~~  ~~102~~ ~~102~~  1  K = 9cm  Shaded part  Area = 17cm x 9cm  = 153cm2 | M1  M1  A1  M1  A1 | For forming the correct equation  For dividing both sides by 102  For the correct value of k  For the correct working  For the correct answer |