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UGANDA MUSLIM TEACHERS’ ASSOCIATION

UMTA JOINT MOCK PRIMARY LEAVING EXAMINATIONS 2015

MATHEMATICS

2 HOURS 30 MINUTES

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| **INDEX NUMBER** |  |  |  |  |  |  |  |  |  |

**NAME…………………………………………..SIGN…………………………….**

**SCHOOL……………………………………………………………………………**

**Instructions to candidates: FOR EXAMINERS’ USE ONLY**

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| --- | --- | --- |
| **QN.** | **MARKS** | **INITIAL** |
| **SECA**  1 – 05 |  |  |
| 06-10 |  |  |
| 11 – 15 |  |  |
| **SEC B**  18-20 |  |  |
| 23 – 24 |  |  |
| 25-26 |  |  |
| 27-28 |  |  |
| 29 - 30 |  |  |
| 31-32 |  |  |
| **TOTAL** |  |  |

Do not open this Booklet until you are told to do so.

* The paper has two Sections **A** and **B.**
* Answer all questions sections **A** and **B** in the spaces provided.
* All answers must be written in Blue or Black pen or Ink.
* Unnecessary changes (crossings) or alternation of answers may lead to loss of marks.
* Any handwriting that cannot easily be read may lead to loss of marks.
* The use of calculators or other mathematical tables is not allowed.
* Do not fill anything in the boxes indicated for “Examiners use only”.

**SECTION A (40 MARKS**)

1. Divide 3.

09

3

3x0

3x9

M1 Working must be shown follow through

A1

1. Simplify 2m + m + m

2m + m +m = 4 m B2 Award B2 on sight

1. Write in Hindu -Arabic numerals.

LXIV = LX + IV M1 for correct expansion

= 60 + 4 A1 for correct answer

= 64

1. Work out: x 1

= x M1 follow through correct working must be shown

= A1 for

1. Divide: 1827 by 3

MDT II

3

3x0

3x6

3x0

3x9

0609

= M1 follow through, correct working must be shown

= 609 A1

1. Double the supplement of 1780

Let the supply be represent by Y B1 follow through correct working

1780 + Y = 1800 must be shown

1780 – 1780 + Y = 1800 – 1780

Y = 20

2Y = 2x 20

Y

1780

= 40 B1

1. Given that set M = {3, 4}, how many proper subsets are in set M?

Proper sub sets

Accept the listing method without the universal set its self

{3}, {4}, { }

3 proper subsets

Follow through

= 2n -1

= 22 -1

= 4 -1

= 3 proper sub sets

1. The price of a cup in a market is shs 1600. After a discount, the customer paid 1350, how much was the discount.

Discount = mp – sp M1 working must be shown

Discount = 1600/= A1 emphasize correct units

- 1350/=

250/=

1. Express of a kg as Hectograms.

kg = ( x 10) Hg M1 emphasize correct conversion of units

1 = 1Hg A1 correct units must be used

1. Seven children had the following ages;

2, 7, 1, 3, 5, 4 and 6. Find their median age in years.

1, 2, 3,**4** 5, 6, 7 M1 working must be shown accept descending order

Medium = 4 A1 correct units must be used

1. The square root of a number is 0.9, find the number.

Let the number be represented by n

= 0.9

n = 0.9 x 0.9

= x M1 follow through

=

= 0.81

Accept

0.9

x 0.9

81 A1 follow through

+ 00

0.81

1. Solve for P if 4+ p = 7.

4 + p = 7

4 – 4 + p = 7 – 4 M1 follow through

P = 3 A1

1. Using a pair of compasses, ruler and a pencil only bisect the angle below.

B2 check for correct arcs

1. Pieces of paper labeled 1 to 6 are folded, put in a basket and mixed up. What is the probability of picking a piece of paper having a composite number?

Sample space = { 1, 2, 3, 4, 5, 6}

Composite numbers (D.C) = n{ 4, 6 }

Prob = M1 composite numbers must be identified follow through

=

= A1 accept

Accept without counseling the sample space.

9

P

3

M

T

= 14

1. Use the Venn diagram below to find the value of P.

P +q + 3 = 14

P + 12 – 12 = 14 – 12 M1 for correct formation of equation

P = 2

Accept

P = 12 – (9 + 3)

= 14 – 12

= 2 A1 for 2 obtained from correct working

1. What is the next number in the sequence?

0, 4, 16, 36………………. M1

0 4 16 36 64 Reject 64 on sight

working must be shown

0 x 0 2 x 2 = 4 4 x 4 = 16 6 x6 = 36 8 x8 = 64

A1

1. How many 2 litre bottles can fill a 20 litre jerrycan of milk?

Method 1

Number of 2 litre bottles = 20 2 M1 follow through

= 10 (2 litre bottles )

Method 2 practical approach A 1

2

2

2

2

2

2

2

2

2

2

+

+

+

+

+

+

+

+

+

Accept

2 x 10 = 20 ; 10(2 litre bottles)

Method 3

Let the number of 2 litre bottles be represented by m

m x 2 = 20

= m = 10 2 litre bottles

1. Jane has 24kg of maize and bean seeds in the store. If are maize seeds. How many Kilograms of bean seeds are in the store?

Method 1 B1 follow through

Maize seeds = x ~~24~~

= 16 kg

Bean seeds = ( 24 – 16 ) kg B1

= 8 kg

Methods 2

Fraction of beans = -

=

=

Beans = x ~~24~~

= 8 kg

1. Find the H.C.F of 9 and 12.

M1 follow through

|  |  |  |
| --- | --- | --- |
| 3 | 9 | 12 |
|  | 3 | 5 |

GCF = 3 A1

1. Moses is 14 years younger than Sarah, Sarah is 23 years old. How old is Moses?

Moses = (23 – 14) years

= 9 years

Let Moses be represent by x M1 follow through

14 + x = 23

14 – 14 9+ x = 13 – 4

x = 9 years

Moses is 9 years old A1

**SECTION B (60 MARKS)**

**Answer all questions in this section, Marks for each question are indicated in the brackets**.

1. (a) Shade of the diagram below, (2 marks)

x ~~10~~ = 6 parts

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |

B1 for getting parts

B1 for nay 6 parts shaded

(b) Work out: (3 marks)

Method 1

= ( x ) ( x ) M1 for changing decimals to common fractions

= ( x ) ( x ) M1 Brackets must be introduced

= 42 A1

Method 2

= ( x ) ( x )

~~100~~x ( x ) ~~100~~ x( x )

= 36 x 63 6 x 9

=

= 42

1. (a) Add 111two

+11two 1010two M1 for correct working (2 marks)

S.D.W

2 2 = 1 rem 0

3 2 = 1 rem 1 A1 for 1010

(b) Find the number which has been expanded to;

(6 x 104) + (3 x 100) + (2 x 102) (2 marks)

= (6 x 10x10x10x10) + (3 x1) + (2 x 10 x 10) M1 for correct substitution

= 60000 + 3 + 200

= 60000

200 A1 for 4

+ 3

60203

1. (a) Given that P = 8, M= -3 and C = -6, find the value of (2 marks)

= M1 for correct substitution

= A1for 4

= 4

1. A parent distributed 25 books to his children as follows; Jumah got three times as much as Sarah and Musa got three less than Jumah. How many books did Jumah get? (3 marks)

Let Sarah’s share be represented b Y

|  |  |  |  |
| --- | --- | --- | --- |
| Sarah | Jumah | Musa | Total |
| Y | 3Y | 3Y -3 | 25 |

Y + 3Y + 3Y – 3 = 25 M1 for correction formation of equation

7Y – 3+ 3 = 25 + 3 M1 for correction like terms

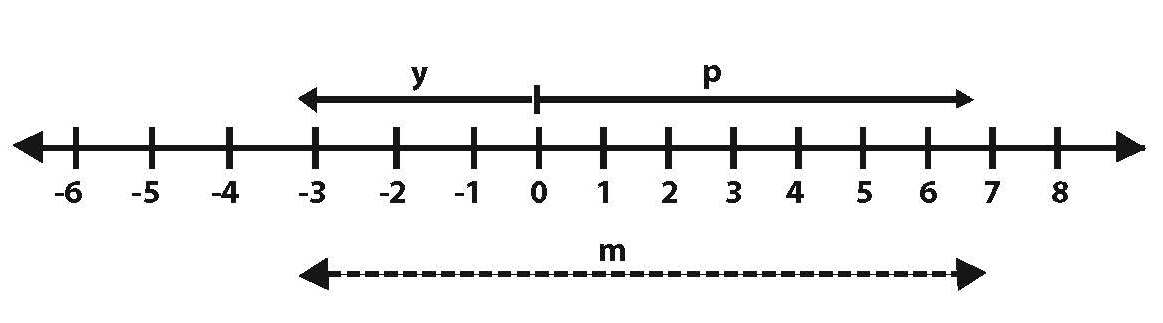
= A1 for 4

Y = 4 books

Jumah = 3 y

= 3 x 4

= 12 books

1. Use the number line below to answer the questions that follow.

p = +5

y = -3

m = -8

1. Name the integers represented by letters;

p = +5 B1 award B1 for each

y = -3 B1

m = -8 B1

(3 marks)

1. Find the value of pym (2 marks)

Pym = 5x – 3 x -8 M1 for correct substitution

= -15 x – 8 A1 for 120

= + 120

1. (a) The time on the 12 hour clock is a half past 8 o’clock in the morning. Express the time in the 24 hour clock. (1 mark)

HRS Mins M1 for correct time

8 30 A1 for 08 30 hours reject 08:30 hrs

+0 00

08 30

08 30 hrs

(b) A lorry took 4 hours travelling from Mbarara to Kampala at an average speed of 60km per hour. How much longer will the lorry take if it travels at an average speed of 40km per hour?

(3 marks)

Distance from mbra to Kla = SXT

= x 4 ~~hrs~~  B1 for 240km emphasize units

= 240 km

Time taken at 40km/hr = B1 for 6 hours

=

= 6 hrs

More longer = 8hrs – 6hrs

= 6 hrs B1 for 2 hrs

1. In a class of 37 pupils, t pupils like Maths (M) only, while 17 pupils like science, 12 pupils like both Maths and science while 3 pupils like none of the two subjects
2. Complete the Venn diagram below (3 marks)

= 37 pupils

M= t + 12

S = 17

17 -12

12

t

B1

B1

B1

3

1. Find the number of pupils who do not like Maths. ( 1 mark)

= 17 – 5 + 3 B1

= 12 + 3

= 15 pupils

1. (a) Increase shs 400 by 20%. (2 marks)

Method 1

Increase % = (100 + 20)% B1 for 120%

= 120%

Increase = x 400

= 480/= B1 for 480/= units must be emphasized

Method 2

% = x 400 accept method 2

= 80/=

Increase = (400 + 80)/=

= 480/=

(b) By selling a radio at shs 180,000. A trader made a loss of 10%. How much did he buy the radio? ( 3 marks)

% decrease = (100 – 20)% = 80% B1 % decrease = (100 -20) % = 80

Let the c.p be represented by M M1 80% represent 180,000

xm = 180,000 M1 100% represent x 100 x 100 = 180000 x 100 A1

=

1. The Venn diagram below shows prime factors of x and 30.

22

71

51

21

y

fx

F30

1. Find the value of x (2 marks)

Fx = 21 x 22 x 51 x 71 B1

= 2 x 2x 5 x 7 M1 for correct equation

= 4 x 5 x 7

= 20 x 7

= 140

1. Find the value of y (2 marks)

y x 51 x 21 = 30 A1 for 3 accept 31 also

=

1. Work out the GCF of x and 30 (1 mark)

GCF = fxn F30 B1

= 51 x 21

= 10

1. A plane left town S on a bearing of 1350 to town T 10 km away. It left town T on a bearing of 0900 to town W, 8 km away.
2. Sketch the route taken by the plane (01 mark)

N

N

N

Town w

Town T

Town S

8 km

10 km

1350

0900

1. Using a scale of 1cm represents 2km, draw an accurate diagram to show the flight of the plane (04 marks)

scale 2km rep 1cm

10km rep () cm

N

N

Town w

Town T

Town S

4cm

5cm

1350

0900

= 5cm

2km rep 1cm

8km rep ( ) = 4cm

1. Show the shortest route for the flight from town S to town W and measure it in Km.

(2 marks)

Shortest route 8.3 cm

= (8.3 x 2) km

= ( x 2) Km

=

16.2km

1. Namusoke bought the following items from a market

2 kg of rice at sh. 3000 per kg

1½ kg of sugar at sh 2600 per kg

0.5 kg of salt at sh 1,200 per kg

A bar of soap at sh 3550.

How much money did she spend altogether? (5 marks)

Rice 300 x 2 = 6000/= B1

Sugar 1 ½ = kg

= x 2600 = 3900/= B1

Salt x 1200 = 600/= B1

Soap 3550/=

Total

6000 M1

3900

600

+ 3550

13059/= A1

1. The table below shows how Mr. Opio uses his land 120 acres from different farm activities

|  |  |  |
| --- | --- | --- |
| Animal grazing | Coffee growing | Banana growing |
| 60 | y | 40 |

1. How many acres are used for coffee growing? (1 mark)

60 + 40 + y = 120

100 – 100 + y = 120 – 100

y = 20 acres

1. Using a radius of 4cm, construct an accurate Pie chart to show the above information

(4 marks)

Degrees

Animal grazing = x 360 = 1800

Coffee growing = x 360 = 600

Banana growing = x 360 = 1200

1. The circumference of a circular fish pond is 88 m. Find its area. (4 marks)

2r = circumference

2 x x r = 88m M1

7 x = 88m x 7

=

r = 2m x 7

r = 14 m A1

Area = r2

= x r x r

= x 14m x 14 m M1

= 308m x 2m

Area = 616m2 A1

Or

d = c

x 7 = 88m x 7

=

d = 28m

r = = 14 m

area = r2

= x 14 x 14

= 308 x 2

= 616m2

**END**