**VICTORIOUS PRIMARY SCHOOLS**

**PRIMARY SIX**

**MATHEMATICS**

**LESSON NOTES**

**TERM ONE, 2015**

**LESSON : 1**

**TOPIC : SET CONCEPTS**

**SUBTOPIC : EQUAL AND EQUIVALENT SETS**

**CONTENT :**

**Equal Sets**

Equal sets are sets with the same number of elements of the same type. The symbol = is used to denote equal sets.

Example:

1. If set R = {r, a, t} and set P = {t, a, r}

N(R) = 3 members, n(S) = 3 members.

Members of R and S are similar

Sets R and P are therefore equal sets.

So we write; **R = P**

**N.B:** The arrangement of members does not matter provided they are exactly the same.

**Equivalent Sets**

Equivalent sets are sets with the same number of elements. The members may be different or the same. The symbol for equivalent is .

**Examples:**

Set B = {4, 5, 6, 7, 8} and Set C = {a, b, c, d, e}

n (B) = 5 members n (C) = 5 members

Therefore Sets B and C are equivalent since they both have 5 members each.

They can be written as, **B C**

**ACTIVITY**

1. Define equal sets.
2. What are equivalent sets?
3. Given the sets below;

Set A = {0, 2, 4, 6, 8}

Set B = {2, 4, 6, 8, 10, 12, 14}

Set C = {s, n, a, i, l}

Set D = {4, 6, 8, 0, 2}

Set E = {n, a, i, l, s}

Set F is of even numbers between 1 and 15.

Use ‘**equal’**  or ‘**equivalent**’

1. Set A and Set D
2. Sets A and C
3. Sets B and F
4. Sets E and C
5. Sets D and E
6. Mr. Mulindwa has goats, cows and sheep on his farm and Mr. Muwonge has sheep, cows and pigs on

his farm. Write the sets of the two farms and state either they are equal of equivalent.

**REFERENCES**

MK MTC Pupil’s book 6 page1

MK MTC Teachers’ book 6 page 1

Functional Primary Maths Pupil’s book 6 page1-2

**LESSON :**

**TOPIC : SET CONCEPTS**

**SUBTOPIC : UNEQUAL SETS**

**CONTENT:**

Unequal sets are the sets with different members or different number of members.

N.B: Unequal means not equal.

The symbol for Unequal sets is =

**Examples:**

1. M K

Set M has 6 members and Set K has 3 members.

Therefore Sets M has 6 members and K are Unequal sets

M = K

1. Set T = {4, 5, 6, 7} and Set R = {a, p, q, k}

Set T is a set of 4 numbers and Set R is a set of 4 letters.

Sets T and R are unequal sets because their members are different though they have the same number of elements.

T = R

**ACTIVITY**:

Given the sets below, write equal or unequal.

1. Set P = {0, 2, 4, 6, 8} and Set Q = {8, 2, 4, 6}

Sets P and Q are ­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sets

1. Set B = {man, woman, boy}

Set C = {man, woman, girl}

Sets B and C are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sets.

1. Set D is a set of all the months of the year that start with letter J

Set E = {January, June, July}

AN02117_Sets E and D are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sets

1. HH00737_AN01918_Given that sets F = { } G= { , , }

Sets F and G are\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_sets

**REFERENCES**

**LESSON :**

**TOPIC : SET CONCEPTS**

**SUBTOPIC : INTERSECTION AND UNION SETS**

**CONTENT :**

**Intersection set**

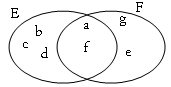
This is a set of common members of given sets.

**Union set:**

A set of all members in the given sets altogether.

**Examples:**

Given the venn diagram below,



1. Find E∩F

E ∩ F = {a, f }

b) Find n(E∩F) = 2 members

E ∩ F = {a, f }

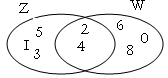
Hence n(E∩F) = 2 members

c) What is E ∪ F?

E∪F= {a, f, b, c, d, g, e}

2. Given that Set Z ={1, 2, 3, 4, 5} and W={0, 2, 4, 6, 8}.

a) Represent the sets on a Venn diagram.



1. Find n(Z∪W)

Z ∪ W = {0, 1, 2, 3, 4, 5, 6, 8}

n(Z ∪ W) = 8 members

**ACTIVITY:**

1. Use the Venn diagram to answer the questions.

frog

fish

lizard

man

toad

lion

X

Y

1. Find X∩Y.
2. Find n(X∩Y).
3. Find Y∪X.
4. What is n(X∪Y)?

2. Given that Set K is a set of all factors of 12 and Set L is a set of all factors of 30.

1. Find K∩L.
2. Find the union set of K and L.
3. How many elements are in L∪K?
4. Find L∪K

**REFERENCES**

A New MK Maths Teachers’ Book 6 Pg. 1-2

MK Maths Pupils’ Book 6 Page 3-4

**LESSON :**

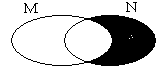
**TOPIC : SET CONCEPT**

**SUB TOPIC : DIFFERENCE OF SETS**

**CONTENT :**

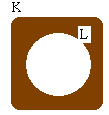
Examples:

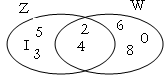
* + 1. Shade N - M on the Venn diagram below.



***NB*** N – M refers to the region for M only.

It also means: N - (M∩N)

* + 1. Shade K- L in the sets.

1. Given the Venn diagram below:-
2. Find W – Z

W – Z = {0, 6, 8}

* 1. Find n(X - W)

Z – W = {1, 3, 5}

n(Z - W) = 3 members.

1. Given that Set R is a set of all vowel letters in the word “chair” and Set K is a set of all vowel letters in the word “education”.
2. Find K – R
3. Find n(R - K)
4. Set R = {a, i}
5. Set K = {a, e, i, o, u}

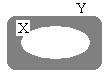
a) K - R = {e, o, u}

b) n(R - K)

R - K = { }

n(R - K) = 0

**ACTIVITY:**

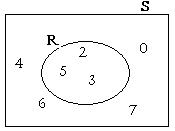
1. Describe the shaded regions



1. Shade P - Q

P

QS - R

1. Set B = {a, h, k, r, s} Set H = {b, h, t, r, v}.
   1. Find i) H – B
   2. n(B - H)
2. Study the diagram and answer the questions
3. List the members of set R
4. Find n(S - R)

1. Set T is a set of all multiples of 4 less than 19. Set M is a set of all factors of 24.
2. Find T - M
3. Find n(M - T)

**REFERENCES:**

MK Maths Pupil’s book 6 page 11-12

MK Maths Teachers’ book 6 page 8-9

**LESSON :**

**TOPIC : SET CONCEPTS**

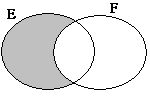
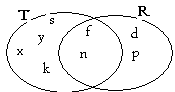
**SUBTOPIC : COMPLEMENT OF SETS**

**CONTENT :**

Complement of a set refers to the region or members with in the union of the given sets but do not belong to that given set.

We use the apostrophe sign to write the complement of a set e.g. the complement of a set B is written as B’.

**Example.**

1. Shade F' in the sets.
2. Given the sets below, find R'

RI = {k, s, x, y}

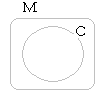
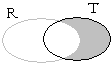
1. Set Z = {p, q, ~~r~~, ~~s~~, ~~t~~} Set Y = {~~r~~, ~~s~~, ~~t~~, u, v}

Find n(Z')

Z' = {u, v}

n(Z') = 2 members.

**ACTIVITY:**

1. Shade the M – K on the Venn diagram below
2. Describe the shaded region in terms of complement
3. Set W is a set of all composite numbers less than 10 and set X is a set of all even numbers less than 16. Find n(X')

**REFERENCES**

MK Maths Pupil’s book 6 page 9-10

MK Maths Teachers’ book 6 page 5-7

Functional Primary Maths Pupil’s book 6 page 4-5

**LESSON :**

**TOPIC : SET CONCEPTS**

**SUBTOPIC : UINVERSAL AND SUBSETS**

**CONTENT :**

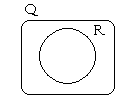
**Universal set**

This is the mother set or the main/ bigger set. For example, if set Q is a set of all children in Victorious Primary School and set R is a set of all children in P.6 class of Victorious, then, set Q is a universal set

Note; Set R is just part of Set Q.

The symbol for universal set is **ε**

The sets Q and R can be represented as



**Subset:**

A subset is the smaller set which can be obtained from any given set. For example set R above is a subset of set Q since it is just part of Q. The symbol ⊂ is used to imply ‘is a subset of’

The sets above can be written as; R ⊂Q

**Proper subsets**

Proper subsets are subsets with the exception of the main set itself.

*Number of proper subsets is got by using (2n)- 1*

**Consider**

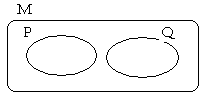
Given that,

Set M is a set of all farmers in Masiku Village.

Set P is a set of farmers who grow food crops.

Set Q is a set of farmers who rear animals.

Represent the sets on a venn diagram



**N.B: - All farmers (M) is the universal set.**

All farmers who grow food crops (P) is a subset of M, thus P⊂ M

All farmers who rear animals (Q) is subset of M, thus Q⊂M

Farmers who rear animals and grow food crops is a subset of M, thus (P∪Q) ⊂ M

Farmers who grow other crops is a subset of M, thus (PUQ)' ⊂ M

**ACTIVITY:**

1. Write the relationship between the sets in the Venn diagram below
2. Draw a Venn diagram to show that all animals (A) are Living things (L).
3. It is true that Kampala (K) is found in Uganda (U) which is in Africa (A).

Represent this statement on a venn diagram.

**REFERENCES**

MK Maths Teachers’ book 6 page 5-6

MK Maths Pupil’s book 6 page 3-14

Functional Primary Maths Pupil’s book 6 page 8-9

**LESSON :**

**TOPIC : SET CONCEPTS**

**SUBTOPIC : LISTING AND FINDING NUMBER OF SUBSETS**

**CONTENT :**

Subsets are smaller sets obtained from a given set.

**Listing subsets:**

Example

1. Set B = {2, 4, 6}. List all the subsets in set B.

{ }, {2}, {4}, {6}, {2,4}, {2,6}, {4,6}, {2,4,6}.

Note:

The empty set is also a subset of any given set. The set itself is also a subset of itself.

**Finding Number of Subsets**

This can be done in either of two ways:

1. First listing the subsets then count them and finally state the number of subsets formed or
2. Using the formula; thus,

Number of Subsets = 2n

*Where n stands fro number of elements in that given set.*

**Examples**

1. Set P = {a, b, c, d}. Find the number of subsets in set P

n(P) = 4 members

No. of subsets = 2n

= 24

= 2 X 2 X 2 X 2

= 16 Subsets.

P has 16 subsets.

1. Given that n(K) = 6. Find the number of subset in set K.

n(K) = 6

No. of subsets = 2n

= 26

= 2 X 2 X 2 X 2 X 2 X 2

= 64 Subsets.

K has 64 subsets.

**ACTIVITY:**

1. List all the subsets in each of the given sets
2. Set B = {2,3,4}
3. Set M = {a, b, c, d}
4. Find the number of subsets in each set by first listing them.
5. Set Z = {p, q, r}
6. Set R = {6}

3. Using the formula, calculate the number of subsets the sets below:

1. Set W = {0, 3, 6}
2. Set T = {  }
3. Set X is a set of 3 blue cows on Mr. Muwonge’s farm. Calculate the number of subsets in set X.

**REFERENCES**

MK Maths Pupil’s book 6 page 5-7

MK Maths Teachers’ book 6 page 3-5

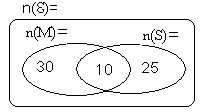
Functional Primary Maths Pupil’s book 6 page 8-9

**LESSON :**

**TOPIC : SET CONCEPTS**

**SUBTOPIC : APPLICATION OF VENN DIAGRAMS**

**CONTENT :**

The Venn diagram below shows how all P.6 children prefer two clubs i.e Maths club and Science club.

1. How many pupils prefer Maths club?

Maths club = n(M) only + n(M∩ N)

= 30 + 10

= 40 pupils.

1. How many pupils prefer both clubs?

10 pupils prefer both clubs

1. How many pupils prefer only one club?

n(M) only + n(S) only

= 30 + 25

= 55 pupils

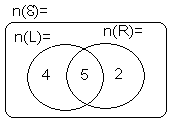
1. How many pupils are in P. 6 class?

n(**ℇ**) = n(M) only + n(M∩ N) + n(S) only

30 + 10 + 25

= 65 pupils

**ACTIVITY:**

The venn diagram below shows how a school football team some use left leg (L), others use the right leg(R) and few use both legs

1. How many members are in the school team?
2. Find the number of players who use left leg.
3. How many players use only one leg?
4. How many players use either left or right leg?
5. How many players use at least on leg?

**REFERENCES**

MK Maths Pupil’s book 6 page 29-30

MK Maths Teachers’ book 6 page 10

Functional Primary Maths Pupil’s book 6 page 10-12

**LESSON: 10**

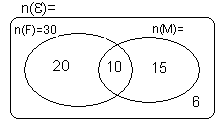
**TOPIC: SET CONCEPTS**

**SUBTOPIC: APPLICATION OF SETS**

**CONTENT:**

Representing information on a Venn diagram

1. In a p.6 class, 30 pupils prefer fish (F), 15 prefer meat (M) only, 10 prefer both fish and meat and 6 don’t like any of the two.
2. Draw a venn diagram to show the information.

 n(F)=30 n(M)only = 15 n(F∩M)= 10 n(F∪M)1=6, n(**ℇ**)=

1. How many pupils prefer fish only?

n(F)only = n(F) – n(F∩M)

= 30 – 10

= 20 pupils

1. What is the population of this class?

n(**ℇ**) = n(F) + n(F∩M)+ n(M)only + n(F∪M)1

(30 - 10) + 15 + 10 + 6

= 20 + 25 + 6

= 51 pupils

1. Find the probability of picking at random a member likes fish only

n(F) = 30 n(**ℇ**)= 51

P (Fish) = n(F)

n(**ℇ**)

= 30

51

**ACTIVITY:**

1. In a family, 12 members use English (E), 8 use Luganda (L), 4 use both English and Luganda and 3 use neither of the two languages.
2. Draw a venn diagram to represent the information
3. B) How many members use only one language?
4. If each member in this family was given sh. 10,000 for weekend, how much money was given to this family?
5. What is the probability of getting a member who uses English only?

**REFERENCES**

MK Maths Pupil’s book 6 page 22-24

MK Maths Teachers’ book 6 page 11-12

**LESSON : 3 PERIODS**

**TOPIC : SET CONCEPTS**

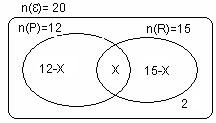
**SUBTOPIC : APPLICATION OF SETS**

**CONTENT :**

1. In a school of 20 teachers, 12 teachers prefer posho (P), 15 prefer rice (R), some prefer both posho and rice and 2 prefer neither of the two kinds of food.
2. Represent the information on a venn diagram

Let n(P∩R) be X

n(P)=12 n(R)= 15 n(P∩R)= X n(P∪R)1=2, n(**ℇ**)= 20



1. Find the number of teachers who prefer both posho and rice.

Note; for both, it is represented by X

Method III:

15 + 12 – X + 2 = 20

27 – X + Y + 2 = 20 + X

27 + 2 = 20 + X

29 – 20 = 20 – 20 + X

9 = X

X = 9

Method I:

X + 12 – X + 15 – X + 2 = 20

X – X – X + 12 + 15 + 2 = 20

-X + 29 = 20

-X + 29 - 29 = 20 – 29

-X = -9

X = 9

Therefore 9 teachers prefer both posho and rice.

Method II:

Method IV:

X = (15 + 12 + 2) – 20

X = 29 – 20

X = 9

12 + 15 – X + 2 = 20

12 + 15 – X + X + 2 = 20 + X

27 + 2 = 20 + X

29 – 20 = 20 – 20 + X

9 = X

X = 9

1. Find the number of teachers who prefer only on type of food.

(12 – X) + (15 – X)

(12 – 9) + (15 – 9)

3 + 6

= 9 teachers

**ACTIVITY:**

In a class of 40, 25 pupils prefer Maths (M), 20 prefer English (E), p prefer both Maths and English and 5 prefer neither Maths nor English.

1. Represent the information on a venn diagram
2. Find the number of pupils who like both Maths and English
3. How many pupils prefer only one subject?
4. What is the probability of picki8ng a pupil at random who prefers Maths only to be the class monitor?

**REFERENCES**

**MK Maths Pupil’s book 6 page 23-25**

MK Maths Teachers’ book 6 page 13-14

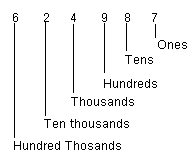
**LESSON :**

**TOPIC : NUMERATION SYSTEMS AND PLACE VALUE**

**SUBTOPIC : PLACE VALUES AND VALUES**

**CONTENT :**

**Examples :**

1. Find the place value of each digit in 6 2 4 9 8 7
2. Find the value of each digit in 8 6 4 2 7.



Value of a digit = digit x place value

Value of:

6 = 6 x 1000 = 6000

8 = 8 x 10000 = 80000

7 = 7 x 1 = 7

2 = 2 x 10 = 20

4 = 4 x 100 = 400

1. State the place value of each digit in 6 3 4. 7 8

Place value of: 6 = Hundreds

7 = Tenth

8 = Hundredths

3 = Tens

4 = Ones

1. Find the value of each digit in 7 2. 9 2 9



Value = digit x place value

7x10 = 70 9x 1/10 =  9/10 = 0.9

2x1 = 2 2x 1/100 = 2/100  = 0.02

9x 1/1000 = 9/1000 = 0.009

**ACTIVITY:**

1. Write the place value of each digit
2. 3 6 9 8 5 3
3. Find the value of each of the digits.
4. 6 6. 4 2
5. 1 9 8 6. 7 9 7
6. 6 1 6. 7 8 9
7. 1 9 0 0 6 2 4
8. 7 8 3. 3 6
9. 8 9. 8 6 6 3
10. Find the sum of the place value of 7 and the value of 2 in 2 0 0 7 6 3
11. What is the product of the value of 8 and place value of 4 in 8 6 3. 4 7?

**REFERENCES**

MK Maths Pupil’s book 6 page 34-35

MK Maths Teachers’ book 6 page 31-33

Functional Primary Maths Pupil’s book 6 page 19-25

**LESSON :**

**TOPIC : NUMERATION SYSTEMS AND PLACE VALUE**

**SUBTOPIC : EXPANDING NUMBERS**

**CONTENT :**

1. Expand 4 9 6 3 in place value form

TH H T O 4 9 6 3

= 4 X 1000 + 9 X 100 + 6 X 10 + 3 X 1

1. Expand 6 8. 6 0 4 in place value form

T O T H TH 6 8. 6 0 4

= (6 X 10) + (8 X 1) + (6 X 0.1) + (0 X 0.01) + (4 X 0.001)

= (6 X 10 + (8 X1) + (6 X 0.1) + (4 X 0.001)

OR

= (6 X 10) + (8 X 1) + (6 X 1/10) + (4 X 1/1000)

1. Expand 6 8. 6 0 4 in value form.

T O Tth Hth THth 6 8. 6 0 4

= (6 X 10) + (8 X 1) + (6 X 1/10) + (4 X 1/1000)

= (6 X 10) + (8 X 1) + (6 X 0.1) + (0 X 0.01) + (4 X 0.001)

= (6 X 10) + (8 X1) + (6 X 0.1) + (4 X 0.001)

= 60 + 8 + 0.6 + 0.00 + 0.004

1. Expand 8 5. 7 6 4 in power form

*Note: In expanding using powers/exponents, the whole numbers take positive powers while the decimal places tale powers. These exponents/powers are of ten.*

**ACTIVITY:**

1. Expand the following using powers of ten.
2. 6 8 8 4 9
3. 2. 6 6 5
4. 1 9 6 3. 3 0 4
5. Expand the following in place value form
6. 1 7 1 7
7. 6 3 4. 5 7 8
8. 4 9. 8 5 7
9. Expand the following in value form
10. 5 4 3 2 1
11. 7 8. 9 0 2

**REFERENCES**

MK Maths Pupil’s book 6 page 34-35

MK Maths Teachers’ book 6 page 31-33

Functional Primary Maths Pupil’s book 6 page 19-25

**LESSON :**

**TOPIC : NUMERATION SYSTEMS AND PLACE VALUE**

**SUBTOPIC : WRITING EXPANDED NUMBER IN SINGLE NUMBER**

**CONTENT :**

1. What number has been expanded below?

60000 + 20 + 500 + 3

60000

500

20

+ 3

**60523**

1. Find the number that has been expanded

(7 X 1000) + (6 X 0.1) + (5 X 10)

= 7000 + 0.6 + 50

7000.0

50.0

+ 0.6

**7050.6**

3. Namuli expanded a certain number and got ,

(6 X 104) + (5 X 100) + (3 X 101) + (7 X 103)

What number did she expand?

**ACTIVITY:**

Find the numbers which have been expanded below

1. 6000 + 20 + 7
2. (7 X 1000) + (8 X 10) + (9 X 100) + (7 X 1)

**REFERENCES**

MK Maths Pupil’s book 6 page 36-37

MK Maths Teachers’ book 6 page 36-37

Functional Primary Maths Pupil’s book 6 page 22-24

**LESSON :**

**TOPIC : NUMERATION SYSTEMS AND PLACE VALUE**

**SUBTOPIC : WRITING NUMBERS IN WORDS**

**CONTENT :**

1. Write 6 2 4 9 1 4 in words

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Thousands | | | Units | | |
| H | T | O | H | T | O |
| 6 | 2 | 4 | 9 | 1 | 4 |

624,914 = Six hundred twenty four thousand nine hundred fourteen

1. Write 1 9 0 0 3 0 0 4 7 in words

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Millions | | | Thousands | | | units | | |
| H | T | O | H | T | O | H | T | O |
| 1 | 9 | 0 | 0 | 3 | 0 | 0 | 4 | 7 |

190,030,047 = One hundred ninety million thirty thousands forty seven

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| T | O |  | Tth | Hth |
| 2 | 4 | . | 6 | 3 |

1. Write 2 4. 6 3 in words

24.63 = Twenty four and sixty three hundredths

**ACTIVITY:**

Write the following in words

6. 14.14

7. 272.009

8. 4634.665

9. 0.0004

10. 6.789

1. 62,493
2. 171717
3. 9009009
4. 666666666
5. 100100100

**REFERENCES**

MK Maths Pupil’s book 6 page 39

MK Maths Teachers’ book 6 page 39-40

Functional Primary Maths Pupil’s book 6 page 24-26

**LESSON :**

**TOPIC : NUMERATION SYSTEMS AND PLACE VALUE**

**SUBTOPIC : WRITING numbers from words to figures**

**CONTENT :**

1. Write in figures

Seventy four million, six hundred ninety two thousand, five hundred eleven.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Millions | | | Thousands | | | Units | | |
| H | T | O | H | T | O | H | T | O |
| 0 | 7 | 4 | 6 | 9 | 2 | 5 | 1 | 1 |

= 74,692,511

1. Seventy nine point four five six.

Seventy nine point four five six = 79.456

1. Our hundred nine and forty six hundredths

One hundred nine = 109

Forty six hundredths = 46/100 =0.46

109.00

0.46

109.46

**ACTIVITY:**

1. Write the following in figures
2. Seventeen million, seven thousand, seventeen
3. To hundred thousand, three hundred sixty four
4. Sixty six point seventy six million, five hundred forty three thousand, two hundred ten.
5. Ninety and nine thousandths
6. Write the number represented on the abacus

**REFERENCES:**

MK Maths Pupil’s book 6 page 40-46

MK Maths Teachers’ book 6 page 40-45

Functional Primary Maths Pupil’s book 6 page 23-25

**LESSON :**

**TOPIC : NUMERATION SYSTEMS AND PLACE VALUE**

**SUBTOPIC : ROUNDING OFF WHOLE AND DECIMAL NUMBERS**

**CONTENT :**

Rounding off means – correcting to the nearest values

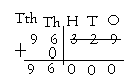
Other terms;

* Rounding up
* Rounding down

Examples:

1. Round off 4965 to the nearest,
2. Tens

Note: When the next number to the right of the required place is 5 and above, we round up (add one to the digit in the required place) and when it is less than 5, we round (do not add one to the digit) in the required place.

1. Round off 96329 to the nearest hundreds
2. Round off 728.36 to the nearest whole number
3. Note: Rounding off to the nearest whole number means to the nearest ones.
4. Round off 68.964 to the nearest tenths.

**ACTIVITY:**

1. Round off 666 to the nearest tens
2. Round off 19634 to the nearest THOUSANDS
3. Round off 45.36 to the nearest tenths
4. WRITE 689.99 to the nearest whole number.
5. WRITE 999.9999 to the nearest thousandths
6. Round off 123121 to the nearest ten thousands.

**REFERENCES**

MK Maths Pupil’s book 6 page 40-46

MK Maths Teachers’ book 6 page 40-45

Functional Primary Maths Pupil’s book 6 page 23-25

**LESSON :**

**TOPIC : NUMERATION SYSTEMS AND PLACE VALUE**

**SUBTOPIC : HINDU ARABIC TO ROMAN NUMERALS**

**CONTENT :**

Letters used in Roman Numerals;

I – 1 C - 100

V – 5 D – 500

X – 10 M – 1000

L -50

1. Write 462 in Roman Numerals

462 = 400 + 60 + 2

= CD + LX + II

= CDLXII

1. Write 1629 in Roman Numerals

1629 = 1000 + 600 + 20 + 9

= M + DCCC + XL + IX

= MDCCCXLIX

Note: We use capital letter form when writing in Roman Numerals

**ACTIVITY**

1. Write the following in Roman Numerals
2. 49 d) 2424
3. 176 e) 964
4. 3332 f) 1234
5. Lukule was given 3965 books. Express his number in Roman Numerals.
6. How would a Roman girl write 5260?

**REFERENCES**

MK Maths Pupil’s book 6 page 40-46

MK Maths Teachers’ book 6 page 40-45

Functional Primary Maths Pupil’s book 6 page 23-25

**LESSON :**

**TOPIC : NUMERATION SYSTEMS AND PLACE VALUE**

**SUBTOPIC : ROMAN NUMERALS TO HINDU ARABIC**

**CONTENT :**

1. Write CDLX in Hindu Arabic Numerals

Note: When a letter of less value comes before that of a greater value, it means subtraction

CDLX = CD + LX

= 400 + 60

= 460

1. Express CMLXVIII in Hindu Arabic Numerals

CMLXVIII = CM + LX + VIII

= 900 + 60 + 8

= 968

1. Wasswa wrote MMMDXIX on a card. What number is this in Hindu Arabic Numerals?

MMMDXIX = MMM + D + XIX

= 3000 + 500 + 19

= 3519

**Activity**

Write the following in Hindu Arabic Numerals

1. CCX 6. MMLXXIV
2. CCCIX 7. CCCIII
3. DCCCLXXXVIII 8. CDVII
4. CDXCII 9. XIX
5. LIX 10. CXIX

**LESSON :**

**TOPIC : OPERATION ON NUMBERS**

**SUBTOPIC : ADDITION OF NUMBERS**

**CONTENT :**

1. Add: 469046 + 63942

4 6 9 0 4 6

+ 6 3 9 4 2

5 3 2 9 8 8

1. There are four million sixty thousand people in Eastern Uganda, six million forty thousand six hundred in Western Uganda and three million fifty thousand in Northern part. Find the total population of the three regions.

Eastern - 4 0 6 0 0 0 0

Northern - 3 0 5 0 0 0 0

Total - 7 1 1 0 0 0 0

The total population in the regions is 7,110,000 people.

**ACTIVITY**

1. Add the following numbers
2. 96114 + 3224
3. 630004 + 99963
4. 17171717 + 222222
5. 10000 + 100000 + 1000
6. There are 46920 female and 32690 male in Kamuli District. Find the population of the district.
7. Uganda’s population is approximately 33 million and that of South Africa is 66.5million. Find the approximate total population

**Reference**

MK Maths Pupil’s book 6 page 40-46

MK Maths Teachers’ book 6 page 40-45

Functional Primary Maths Pupil’s book 6 page 23-25

**LESSON :**

**TOPIC : OPERATION ON NUMBERS**

**SUBTOPIC : subtraction of large numbers**

**CONTENT :**

1. Subtract 85604 – 64503

- Arrange the numbers vertically according to the place values of the given digits the subtract.

1. Subtract 2896475 from 8331843

Interpretation of the ‘*from’* operation, thus

8331843 – 2896475

- arrange vertically and subtract

1. There are 49625 text books in Victorius Library. 16240 are maths books and the rest are other subjects. How many books are for other subjects?

Total no. of books - 4 9 6 2 5

Numbeer os maths - 1 6 2 4 0

Other subjects - 3 3 3 8 5

**ACTIVITY:**

1. Subtract the following
2. 40000 – 3000
3. 562003 – 49999
4. 634963241 – 100100100
5. Subtract 99 from 10000000
6. What is the difference between 3694 and 76300?
7. How far is 50,000 metres away from 19500m?
8. In a country of 36 million people, 2,563,200 are adults and the rest are child. Find the number of children in this country.

**LESSON :**

**TOPIC : OPERATION ON NUMBERS**

**SUBTOPIC : MULTIPLICATION**

**CONTENT :**

1. Multiply 242 X 12

2 4 2 X 12

4 8 4

+ 2 4 2 0

**2 9 0 4**

1. A school bus carries 68 passengers when full. If it makes 42 trips, how many passengers will be carried altogether?

In one trip, it carries 68 passengers

In 48 trips it carries (42 x 68) passengers

4 2

x 6 8

2 5 2 0

+ 3 3 6

2 8 5 6

The bus carries 2856 passengers in the 42 trips

**ACTIVITY:**

Multiply the following

1. 66 X 424 4. 9103 X 133
2. 117 X 24 5. 817 X 1313
3. 6636 X 36 6. 312 X 495

The average number of children in 136 schools in Mukono district is 1250. Find the total population in all the schools.

Find the product of 396 and 3298.

**Reference**

MK Maths Pupil’s book 6 page 40-46.

MK Maths Teachers’ book 6 page 40-45.

Functional Primary Maths Pupil’s book 6 page 23-25.

**LESSON :**

**TOPIC : OPERATION ON NUMBERS**

**SUBTOPIC : DIVISION OF NUMBERS**

**CONTENT :**

1. Divide 7620 by 20

0 3 8 1

20 )7 6 2 0

- 0

7 6

- 6 0

1 6 2

- 1 6 0

. . 2 0

- 2 0

1. Divide 76050 ÷ 234

*Children. be encouraged to divide using multiples if the divisor (see P.5 notes )*

**ACTIVITY:**

Divide the following numbers:

1. 1256 ÷ 13
2. 25610 ÷ 132
3. Divide 5600 by 250

**REFERENCES:**

Functional Primary Maths Pupil’s book 6 page 47-48

MK Maths Teachers’ book 6 page 72-73

**LESSON :**

**TOPIC : NUMBER PATTERNS AND SEQUENCES**

**SUBTOPIC : DIVISIBILITY TESTS**

**CONTENT :**

**Divisibility test by 2**

A number is divisible by 2 when it ends with, 0, 2, 4, 6, 8

e.g. 66, 200, 7204, 98, 24, 62

**Divisibility test by 3**

A number is divisible by 3 when the sum of its digits is 3 or 6 or 9.

e.g. i) 291

291 2+9+1 = 12

12 – 1+2 = 3

Therefore 291 is divisible by 3

ii) State whether 12631 is divisible by 3 or not.

12631 – 1+2+6+3+1

= 13

= 1+3

= 4

Therefore 12631 is divisible by 3

**Divisibility test by 5**

A number is divisible by 5 when it ends with either 0 or 5. E.g. 500, 25, 2795, 35090, 33000

Divisibility test by 4

A number is divisible by 4 when its last two digits are multiple of 4 i.e 00, 04, 08, 12, 16, 20, 24, 28, 32…………….

Examples:

1. Check whether 224 is divisible by 4

224 – The last two digits make 24 and 24 is divisible by 4

Therefore 224 is divisible by 4

**ACTIVITY:**

1. Which of the following numbers is divisible by 2
2. 37 b) 9990 c) 179
3. Test for divisibility by 3 and state whether the number is divisible by 3 or not
4. 63 c) 29631
5. 178
6. Is 694 divisible by 4 or not?
7. Check whether 3595 is divisible by 5
8. Complete the table by using YES or NO

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Number** | **By 2** | **By 3** | **By 4** | **By 5** |
| **3334** | YES |  |  |  |
| **69250** |  | NO |  | YES |
| **1304** | NO |  |  |  |
| **630001** |  |  |  |  |
| **8896** |  |  | YES |  |

**REFERENCES:**

E.A.E.P Primary Maths book 6 page 16-17

MK Maths Teachers’ book 6 page 76-77

MK Maths Pupil’s book 6 page 65

**LESSON :**

**TOPIC : NUMBER PATTERNS AND SEQUENCES**

**SUBTOPIC : GEOMETRICAL SEQUENCES**

**CONTENT :**

1. **Square numbers**

A square number is obtained or got by multiplying a number by itself.

e.g. 12 = 1X1 = 1

22 = 2X2 = 4

32 = 3X3 = 9

42 = 4X4 = 16

52 = 5X5 = 25

62 = 6X6 = 36

72 = 7X7 = 49

82 = 8X8 = 64

Therefore 1, 4, 9, 16, 25, 36, 49, 64,…………………… are square numbers

1. Triangular numbers

Triangular numbers are obtained by adding consecutive numbers. They can be represented as the pattern below.

1 = 1

1+2 = 3

1+2+3 = 6

1+2+3+4 = 10

The sequence;

1, 3, 6, 10, 15, 21, 28, 36…………………………

1. Rectangular numbers

1x2 = 2

2X3 = 6

3X4 = 12

4X5 = 20

The pattern for rectangular numbers is in a rectangular form.

1. Cubic numbers.

These are numbers got by multiplying the same number three times

13 = 1X1X1 = 1

23 = 2X2X2 = 8

33 = 3X3X3 = 27

43 = 4X4X4 = 64

53 = 5X5X5 = 125

**ACTIVITY**

1. Write down all the square numbers between 10 and 65
2. Find the sum of the second and fifth triangular numbers
3. Find the first four cubic numbers
4. Find the value of 63
5. What is the square number of 99?

**REFERENCES:**

E.A.E.P Primary Maths book 6 page 18-19

Functional Primary Maths Pupil’s book 6 page 62-64

MK Maths Teachers’ book 6 page 76-78

MK Maths Pupil’s book 6 page 65-69

**LESSON :**

**TOPIC : NUMBER PATTERNS AND SEQUENCES**

**SUBTOPIC : ARITHMETIC PROGRESSION**

**CONTENT :**

1. **Even numbers**

Numbers which are divisible by 2 with no remainder e.g. 0, 2, 4, 6, 8, 10, 12, 14, 16……

1. **Odd numbers**

Numbers you divide by two and get a remainder as 1 e.g. 1, 3, 5, 7, 9, 11, 13, 15……….

Note; the pattern fro a even and odd number is by adding 2

1. **Counting numbers**

These are numbers from 1 up to no end.

They are also called National numbers e.g. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,……

1. **Prime numbers**

A prime number is a number with only two factors, which is 1 and itself, e.g 2, 3, 5, 7, 11, 13, 17, 19, 23, 29…………..

1. **Composite numbers**

A composite number is a number with more than two factors. E.g. 4, 6, 8, 9, 10, 12, 15, 16, 18, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30………………….

**ACTIVITY**

1. Find the sum of the first four even numbers
2. What is the product of the second and sixth odd number?
3. Divide the tenth counting number by the first prime number.
4. What is the difference between the sixth composite number and the third prime number?
5. Write all prime numbers between 20 and 36

**REFERENCE**

MK Maths Teachers’ book 6 page 79-81

MK Maths Pupil’s book 6 page 73-80

**LESSON :**

**TOPIC : NUMBER PATTERNS AND SEQUENCES**

**SUBTOPIC : CONSECUTIVE NUMBERS**

**CONTENT :**

1. The sum of three consecutive counting numbers is 15. Find the numbers.

Let the first number be Y

The pattern of counting numbers is by adding

1st be y; 2nd  = y+1 3rd = y+2

Sum = 15

y+y+1+y+2 = 15

y = 4

y+1 = 4+1 = 5

y+2 = 4+2 = 6

The numbers are 4, 5, 6

y+y+y+1+2 = 15

3y+3 = 15

3y+3-3 = 15 – 3

3y/3 = 12/3

y = 4

1. Find the sum of four consecutive even numbers when the smallest number is 6

6, 8, 10, 12

= 6+8+10+12 = 36

**ACTIVITY**

1. Musa wrote three consecutive counting numbers on the chalkboard. If the second number was 9, find the sum of the numbers he wrote.
2. The median of three consecutive odd numbers is 21. Find the numbers
3. Find the four consecutive counting numbers if their sum is 86
4. The total of three consecutive even numbers is 60. Find their range

**REFERENCE**

MK Maths Teachers’ book 6 page 80-81

MK Maths Pupil’s book 6 page 76-78

**WEEK**

**LESSON: 1**

**TOPIC: NUMBER PATTERNS AND SEQUENCES**

**SUBTOPIC: PRIME FACTORISATION**

**CONTENT:**

* Prime factorization can be done in two methods.

1. Using ladder method
2. Using factor tree method

* Prime factorization can also be in power form or subscript form.

**Examples**

1. Prime factorize 36 and give your answer in a power form.

F36 F36

2 36 36

2

18

9

2

3

3

2 18

2 9

3 3

3 1

= (2 X 2) X (3 X 3) = (2 X 2) X (3 X 3)

= 22 X 32 = 22 X 32

1. Prime factorize 48 and give your answer in subscript form

F48 = 2 X 2 X 2 X 2 X 3

= {21, 22, 23, 24, 31}

**NOTE: Subscript form is also called set form.**

**ACTIVITY**

1. Prime factorize the following and give the answer in a power form
2. 12 d) 100
3. 24 e) 125
4. 72 f) 18
5. Prime factorize and give the answer in subscript
6. 90 b) 32 c) 15 d) 120

**REFERENCE**

Functional Primary Maths Pupil’s book 6 page 65-67

MK Maths Teachers’ book 6 page 82-84

MK Maths Pupil’s book 6 page 83-84

**LESSON :**

**TOPIC : NUMBER PATTERNS AND SEQUENCES**

**SUBTOPIC : FINDING PRIME FACTORISED NUMBERS**

**CONTENT :**

1. What number has been expanded below?

2 X 2 X 3 X 3 X 3

= (2 X 2) X (3 X 3) X 3

= 4 X 9 X 3

= 36 X 3

= 108

1. Find the prime factorized number to get 23 x 32

23 x 32 = (2 x 2 x 2) x ( 3 x 3)

= 8 x 9

= 72

1. Find the number that has been expanded below;

{21, 22, 23, 31, 51}

= 21 x 22 x 23 x 31 x 51

= (2 x 2 x 2) x (3 x 5)

= 8 x 15

= 120

**ACTIVITY**

Find the numbers which have been prime factorized;

1. 2 X 3 X 5 6. {21, 31, 51}
2. 2 X 3 X 3 X 5 7. {71, 111}
3. 23 X 31 8. 71 X 111 X 131
4. 52 X 71

**REFERENCES**

MK Maths Teachers’ book 6 page 82-84

Functional Primary Maths Pupil’s book 6 page 67-68

**LESSON :**

**TOPIC : NUMBER PATTERNS AND SEQUENCES**

**SUBTOPIC : PRIME FACTORS ON VENN DIAGRAMS**

**CONTENT :**

1. Prime factorize 18 and 12 and represent their prime factors on a venn diagram

Note: On a venn diagram, we put subscripts. So we prime factorize in subscript from.

2 18 2 12

3 9 2 6

3 3 3 3

1

18 = 21 22  31 32 12 = 21 22 23 31

Common prime factors {21, 31}

21

31

32

22

F12

F18

Find the G.CF of F18 and F12

G.C.F = Product of factors in F18 ∩ F12 .

= 21 X 31

= 2 X 3

= 6

1. Work out the L.C.M of F18 and F12

L.CM = Product of factors F18 ∪ F12 .

L.C.M = 21 X31 X 22 X32

L.CM = 2 X 3 X 2 X 3

= 6 X 6

L.C.M = 36.

**ACTIVITY**

1. a) Prime factorize 40 and 15 and represent their prime factors on a venn diagram

b) Find their L.C.M

c) Calculate their G.C.F

**REFERENCES**

Functional Primary Maths Pupil’s book 6 page 68-69

MK Maths Pupil’s book 6 page 82-85

**LESSON :**

**TOPIC : NUMBER PATTERNS AND SEQUENCES**

**SUBTOPIC : INTERPRETING VENN DIAGRAMS**

**CONTENT :**

1. The venn diagram below shows the prime factors of Y and X

21

31

32

22

FX

FY

51

1. Find the value of Y

Y = 21 X 31 X 32

Y = 2 X 3 X 3

Y = 6 X 3

Y = 18.

1. Find the value of X

X = 21 X 22 X31 x 51

X = 2 X 2 X3x 5

X = 12 X 5

X = 60.

1. Find the L.C.M of FY and FX

L.CM = Product of factors FY ∪ FX .

L.C.M = 21 X 22 X 51 X 31 X 32

= (2 X 2 X 5) X (3 X 3)

= 20 X 9

L.C.M = 180

1. a) Find the value of P and K in the figure

21

31

p

32

Fk

F18

p X 21 X 3 = 12 K = 21 X 31 X 32

pX 2 X 3 = 12 K = 2 X 3 X 3

6P = 12 K= 6 X 3 6 6 K = 18

P = 2.

1. Find the G.C.F of F12 and FK

G.C.F = Product of Intersection

= 21 X 31

= 2 X 3

G.C.F = 6

**ACTIVITY**

1. Given the venn diagram below

FM

F20

n

22

21

32

1. Find the value of
2. m ii) n
3. Work out the L.C.M of Fm and F20
4. Calculate the G.C.F of Fm and F20

**REFERENCES**

Functional Primary Maths Pupil’s book 6 page 68-70

**LESSON :**

**TOPIC : NUMBER PATTERNS AND SEQUENCES**

**SUBTOPIC : SQUARES AND SQUARE ROOTS OF WHOLE NUMBERS**

**CONTENT :**

**Squares:**

1. Find the square of 5

52  = 5 X5 = 25

1. What is the square of 16

162 = 16 X 16 = 256

**Square Roots:**

1. Find the square root of 9

2√9 = 3 9 3 3 = 3 X 3 1 = 32

2√9 = 2√32  = 3

Therefore √9 = 3.

1. Work out the square root of 64

√64 = 64

2 32

2 16

2 8

2 4

2 2

2 1

= 2 X 2 X 2 X 2 X 2 X 2

= 26

So, 2√64 = 2√26 = 23 = 2 X 2 X 2 = 8

Therefore, √64 = 8.

Square roots can also be got by using odd numbers

1. Find the square root of 6

16 – 1 = 15

15 – 3 = 12

12 – 5 = 7

7 – 7 = 0

Therefore, √16 = 4.

Note: We subtract odd numbers in their order sequence until we get 0 and count the number of odd numbers used.

**ACTIVITY:**

1. Find the square root of each
2. 4 d) 121
3. 25 e) 196
4. 100 f) 255
5. Find the square of each
6. 6 c) 100
7. 10 d) 25

**REFERENCE**

MK Maths Teachers’ book 6 page 88

MK Maths Pupil’s book 6 page 95-97

Functional Primary Maths Pupil’s book 6 page 71-74

**LESSON :**

**TOPIC : NUMBER PATTERNS AND SEQUENCES**

**SUBTOPIC : SQUARE ROOTS OF FRACTIONS**

**CONTENT :**

1. Find the square root of 4/9

√4 = √4 = 4 = 2√22 = 2. √9 √9

2 2

2 1

√9 = 9

3 3

3

1

= 3 X 3 = 32 = 2√32 = 3.

Hence √(4/9) = 2/3

1. Work out the square root of 27/9

√27/9 = √25/9 = √25 5 25 3 9 √9 5 5 3 3 1 1 = 2√5 X 5 = 2√3 X 3

= 2√52 = 2√32

**= 5. = 3.**

SO √25/9 = 5/3

= √27/9 = **12/3.**

**ACTIVITY**

1. Work out the square roots of the following
2. 100/1000 c) 9/16 e) 61/4 g) 17/9
3. 1/4 d) 119/81 f) 81/100

**REFERENCE**

MK Maths Teachers’ book 6 page 88-89

MK Maths Pupil’s book 6 page 98-100

MK Maths Pupil’s book 7 page 56-57

Understanding Maths Pupil’s book 7 page 43-44

**LESSON :**

**TOPIC : NUMBER PATTERNS AND SEQUENCES**

**SUBTOPIC : SQUARES ROOTS OF DECIMALS**

**CONTENT :**

1. Find the square root of 0.49

2√ 0.49 = 2√49 = 7 = 0.7 √ 100 2√100 10

√49 7 49 = 2√7 x 7 = 2√72 = 7 100 7 7 1

√100 2 100 = 2√2 x 2 x 5 x 5 = 2√22 x 55 = 2 x 5 = 10 2 50 5 25 5 5 1

Note: Square roots of decimals, we change the decimal into a common fraction first and after the square root of each part, we take it back to decimal form.

1. Work out the square root of 0.0081

√0.0081 = √81 = 9 = 0.09 √10000 100

**ACTIVITY**

Find the square root of each decimal;

1. 0.36 5) 2.25
2. 0.81 6) 1.21
3. 1.44 7) 0.0004
4. 1.96 8) 0.0064

**REFERENCE**

Understanding Maths Pupil’s book 7 page 45-46

MK Maths Pupil’s book 7 page

MK Maths Pupil’s book 6 page 101

MK Maths Teachers’ book 6 page 89

**LESSON :**

**TOPIC : NUMBER PATTERNS AND SEQUENCES**

**SUBTOPIC : MORE ON SQUARES ROOTS**

**CONTENT :**

1. The area of a square is 81 cm2. Find the length of each side of the square.

Area = S2 3 81 √81 = √(3 X 3 X 3 X 3 X 3)

81 Cm2

S 81 Cm2 = S2 3 27 = 2√34

S

2√ 81 Cm2  = 2√S2 3 9 = 3 X 3

S

**S = 9 cm**  3 3  **= 9**

Therefore, Side = 9 Cm

1. Solve, K2 = 0.0004

√K2  = √0.0004

√K2 = √ 4/10000

K = 2

100

K = 0.02

Solve 2Y2 = 50

√25 = 5 25

1. 1

√25 = 5x5

= 2√52

= 5

2y2 = 50

Dividing each term by the coefficient

2y2  = 50

2 2

Y2 = 25

Taking the square root on both sides

√y2  = √25

y = 5

**ACTIVITY**

Mulindwa’s square garden covers an area of 100 m2. Calculate the length of each side of the garden.

The base area of a cube is 16 cm2. Find its height.

A farmer used a barbed wire to fence his square garden that covers an area of 196 m2. Find the length of the barbed wire used.

Solve P2 = 1

Solve 900 = m2

Find the value of 3r2 = 12

**REFERENCES**

**LESSON :**

**TOPIC : FRACTIONS**

**SUBTOPIC : ADDITION OF FRACTIONS**

**CONTENT :**

1. Add: 5 + 1 6 4

5 + 1

1. 12
2. 6
3. 3

1

LCM = 2 x 2 x 3 = 12

6 4 LCM 12

= 10 + 3

12

= 1 3/12

= 1 1/12

Method ii

= 20 + 6

24

= 26/24

= 11/12

5/6 + 1/4

5x 4 + 1 x 6

6x 4 4 x 6

= 20/24  + 6/24

2. Find the sum of ½ +1/4  + 1/3

= 6 + 3 + 4

12

= 13/12 = 1 1/12

**ACTIVITY**

Add the following fractions

1. 5 + 1 4) 4 4 + 2 1 6 4 4 2
2. 5 + 1 5) 3 1 + 1 6 4 3 4
3. 5 + 1 6) 2 1 + 1 5 6 4 4 6

Lule has 4 1 meters of cloth and Sam has 9 1 meters. Find their total length.

4 6

**REFERENCES**

Functional Primary Maths Pupil’s book 6 page 91-92

MK Maths Teachers’ book 6 page 98-99

MK Maths Pupil’s book 6 page 106

**LESSON :**

**TOPIC : FRACTIONS**

**SUBTOPIC : SUBTRACTION OF FRACTIONS**

**CONTENT :**

1. Subtract: 4 - 1 5 2

4 - 1 = 8 - 5 **= 3**  5 2 10 **5**

1. Subtract 2/3  from 4 1/4

= 4 1/4  - 2/3

**ACTIVITY**

Subtract the following fractions

1. 4 - 1 4) 3 - 3 5 2 5 10
2. 4 - 1 5) 8 - 5 5 2 9 6
3. 4 - 1 6) 2 - 3 5 2 5 10

7. Annette was given 4 2 Kg of sugar and gave out 2 1 kg. What fraction did she remain with?

3 2

8. Kato had 6 trays of eggs. He used **1**  1 trays. What fraction remained?

3

**REFERENCES**

Functional Primary Maths Pupil’s book 6 page 93-94

MK Maths Teachers’ book 6 page 98-99

MK Maths Pupil’s book 6 page 106

**LESSON :**

**TOPIC : FRACTIONS**

**SUBTOPIC : MULTIPLICATION OF FRACTIONS**

**CONTENT :**

1. Multiply: 2 x 1 3 5

2 x 1 **= 2** 3 x 5 **15**

1. Find the product of 3 1 and 2 5 4

3 1 x 2

4 5

13 x 2 = 26/20 = 13/10

4 x 5

3. What is 1 of 1

1. 3

1 of 1 = 1 x 1 = 1 x 1 = 1

4 3 4 3 4 x 3 12

**ACTIVITY**

1. Multiply the following fractions
2. 1 x 4 c) 3 x 2 6 9 5 7
3. 17 x 1 d) 1 x 1 x 1

3 2 2 3 4

1. Find the product of 2 and 1 9 8
2. What is 2 of 90? 5
3. What is the value of 1 of 1 2 2

**REFERENCES**

Functional Primary Maths Pupil’s Book 6 page 79

MK Maths Teachers’ Book 6 page 99-104

MK Maths Pupil’s Book 6 page 106-108

**LESSON :**

**TOPIC : FRACTIONS**

**SUBTOPIC : DIVISION OF FRACTIONS**

**CONTENT :**

**: Reciprocal**

**Note; A reciprocal is a number multiplied by the given number to give a product 1.**

e.g. What is the reciprocal of 4?

Let the reciprocal be m

So m x 4 = 1

4 m = 1 = m = 1 4 1 4

**Therefore the reciprocal of 4 is = 1**

**4**

In short, the reciprocal of any fraction is the denominator to become a denominator and vice versa.

**Examples:**

1. Work out: 1 ÷ 1 2 4

Note: When dividing fractions,

* The first fraction remains.
* Division sign change to multiplication
* The second fraction changes to its reciprocal

So, 1 ÷ 1 = 1 x 4 = 1 x 4 = 4 **= 2**  2 4 2 1 2 x 1 2

Divide: 2 ÷ 1 5 3

2 x 5 x 3 ÷ 1 x 5 x 3 = 2 x 3 ÷ 1 x 5 = 6 ÷ 5 = 6 **= 11/5**  5 3 5

We multiply each fraction by product of the denominators

1. Divide: 4 ÷ 1 9 3

2 x 5 x 3 ÷ 1 x 5 x 3 = 2 x 3 ÷ 1 x 5 = 6 ÷ 5 = 6 **= 1 1**  5 3 5 **5**

**ACTIVITY**

1. Divide the following fractions
2. 4 ÷ 1 d) 1 ÷ 1 g) 6 ÷ 1 9 3 6 3 3
3. 4 ÷ 1 e) 6 ÷ 1 h) 1 ÷ 10 9 3 8 3 5
4. 4 ÷ 1 f) 10 ÷ 2 3 15 3 9

**REFERENCES**

MK Maths Teachers’ book 6 page 107-111

MK Maths Pupil’s book 6 page 1111-112

Functional Primary Maths Pupil’s book 6 page 80-87

**LESSON :**

**TOPIC : FRACTIONS**

**SUBTOPIC : MIXED OPERATIONS IN FRACTIONS**

**CONTENT :**

In mixed operations, we use **“BODMAS”** to handle the operations

B – Brackets

M – Multiplication

A – Addition

S – Subtraction

O – Of

D – Division

1. Work out: 1 + 1 x 1 of 1

2 4 3 5

**BODMAS**

1 + 1 x 1 of 1

2 4 3 5

1 + 1 x 1 x 1

2 4 3 5

1 + 1 x 1 x 1

2 4 3 x 5

1 + 1 x 1

2 4 15

1 + 1 x 1

2 4 15

1 + 1 x 1 = 1 + 1 = 30 + 1 **= 31**

2 4 x 15 2 60 60 **60**

1. Simplify: 4 - 1 + 1

5 2 3

**BODMAS**

4 + 1 - 1 = 12 + 4 - 1 = 16 - 1 = 32 - 15 **= 17**

5 3 2 15 2 15 2 30 **3**

**ACTIVITY:**

Work out the following

1. 1 x 1 + 1
2. 2 - 1 + 6

5 4 9

6. 4 - 1 + 1

10 2 2

2 4 3

1. 4 of 1 + 4

7 2 9

1. 2 ÷ 6 x 1 + 1

5 9 3 2

1. 9 + 1 - 1 x 3 ÷ 1

5 3 2 5 4

**REFERENCES**

MK Maths Teachers’ Book 6 Page 112-114

MK Maths Pupil’s Book 6 Page 113-114

**LESSON :**

**TOPIC : FRACTIONS**

**SUBTOPIC : ADDITION AND SUBTRACTION OF DECIMALS**

**CONTENT :**

1. Add: 3.4 + 24.63

2 4 . 6 3

+ 3 . 4 0

**2 8 . 0 3**

1. Alex had 7.05 meters and Kato had 17.13 meters of string. Find the total length of their string. Find the total length of their strings.

1 7 . 1 3 metres

+ 7 . 0 5 metres **2 4 . 1 8 metres**

1. Subtract 9.5 – 3.6

9 . 5 – 3 . 6

**5 . 9**

1. Subtract 0.9 from 100

1 0 0 . 0

- 0 . 9

9 9 . 1

**ACTIVITY:**

1. Work out the following
2. 6.4 + 9.6 d) 76.6 – 67.7
3. 166.66 + 0.4 e) 100 – 0.101
4. 5.55 + 555 f) 30 – 0.3
5. Subtract 0.2 from 20
6. Subtract: 1000 – 0.01

**REFERENCES**

Functional Primary Maths Pupil’s book 6 page 94-95

MK Maths Teachers’ book 6 page 113-116

MK Maths Pupil’s book 6 page 114-115

**LESSON :**

**TOPIC : FRACTIONS**

**SUBTOPIC : MULTIPLICATION OF DECIMALS**

**CONTENT :**

1. Multiply: 0.3 x 6

0 . 3 6 x 3 = 18

x 6 6 x 0 = 0 + 1 = 1

**1 . 8**

1. Multiply: 4.5 x 2.6

45 x 26

10 10

117~~0~~  10~~0~~ **= 11.7**

1. Find the product of 2.34 and 1.2

2 . 3 4 x 1.2

41 68

+2340

**2.808** After multiplying and adding, we consider the decimal places altogether.

**ACTIVITY:**

Work out the following

1. 3.3 x 2 5) 32.5 x 0.3
2. 6.6 x 1.2 6) 9.8 x 2.2
3. 9.4 x 100 7) 144.4 x 100
4. 17.17 x 2.5 8) 33 x 3.3

**REFERENCES**

MK Maths Teachers’ book 6 page 117-119

MK Maths Pupil’s book 6 page 116-119

**LESSON :**

**TOPIC : FRACTIONS**

**SUBTOPIC : DIVISION OF DECIMALS**

**CONTENT :**

1. Divide 6 by 0.2
2. Divide 0.5 by 20

0.5 ÷ 20

5 ÷ 20 10 1

5 x 1 10 20

1 x 1 10 x 4

1. 40

**= 0.025**

6 ÷ 0.2

6 ÷ 2

10

6 x 10 1 2

3 x 10 1 x 1

30 1

**= 30**

1. Work out: 4.5 ÷ 2.5

45 ÷ 25 10 10

45 x 10 10 25

45 25

9 5

**= 1.8**

**ACTIVITY**

Work out the following

1. 12 ÷ 0.2 5) 0.8 ÷ 2
2. 8.5 ÷ 0.5 6) 100 ÷ 0.1
3. 14.4 ÷ 1.2 7) 7.2 ÷ 0.06
4. 0.96 ÷ 0.008 8) 200 ÷ 0.002

**REFERENCES**

Functional Primary Maths Pupil’s book 6 page 98-99

MK Maths Teachers’ book 6 page 119-120

MK Maths Pupil’s book 6 page 118-119

**LESSON :**

**TOPIC : FRACTIONS**

**SUBTOPIC : MULTIPLICATION AND DIVISION OF DECIMALS**

**CONTENT :**

1. Work out: 1.2 X 2.4

0.3

12 x 24 ÷ 3

10 10 10

12 x 24 x 10

1. 10 3

6 x 8 x 1 48

5 x 1 x 1 5 **= 9.6**

1. Simplify: 1.8 X 7.2

0.2 X 0.03

18 x 72 ÷ 2 x 3

10 10 10 100

18 x 72 x 10 x 100 = 3 x 72 x 10

10 10 2 3 1 x 1 x 1 x 1

**= 2160**

**ACTIVITY**

Work out the following:

4) 0.045 X 0.9

0.9 X 0.03

5) 6.4 X 2.8

0.04

6) 1.8 X 3.5

0.7 X 0.3

1) 1.6 X 7.2

0.06

2.) 12.3 X 2.4

3.6

3) 36 X 0.4

0.9

**REFERENCES**

Functional Primary Maths Pupil’s book 6 page 99-100

MK Maths Teachers’ book 6 page 122-123

MK Maths Pupil’s book 6 page 121-122