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P.5 MATHS LESSON NOTES WEEK 7 NOVEMBER

LESSON 1

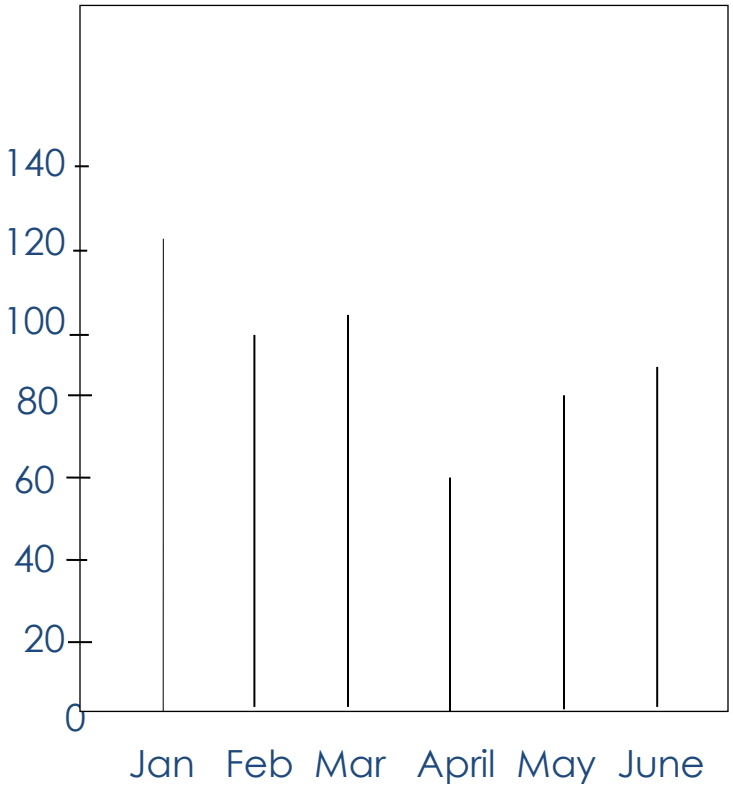
LINE GRAPHS

Instead of bars, we can use lines to form bar line graphs.

Example

Study the graph below ad answer the questions that follow

Records of births in 1tojo hospital



i) In which month of the year was the biggest number of babies born?

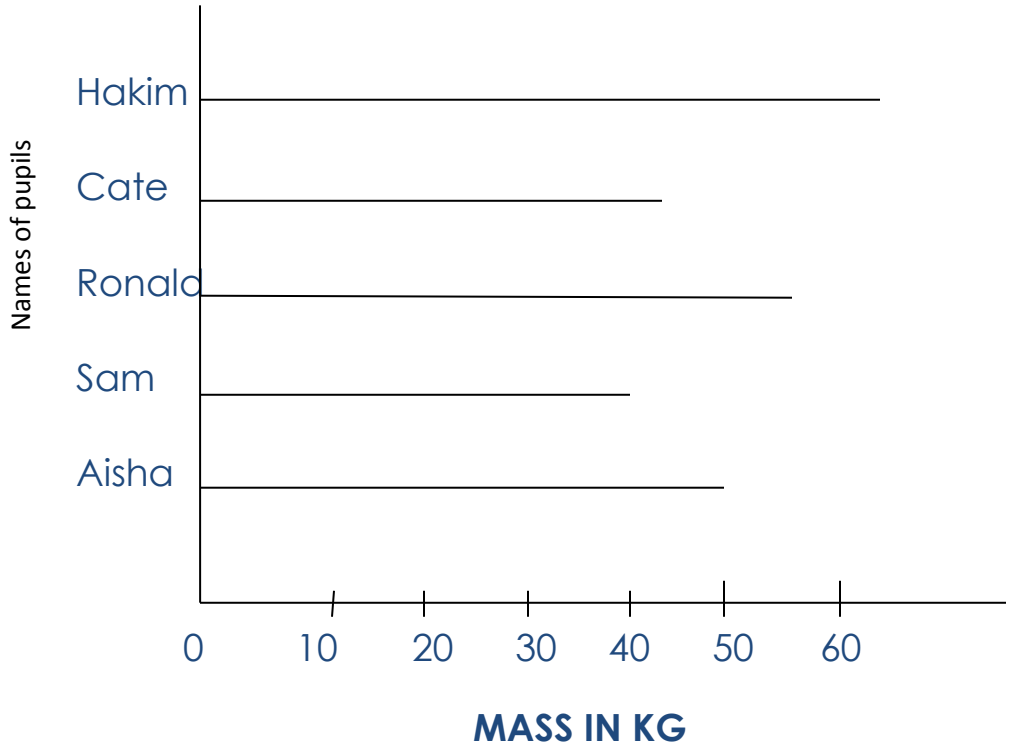
ii) Which two months had the same number of babies born?

iii) How many babies were born in February?

iv) What was the average number of babies born in the first two months?

ACTIVITY

1. The graph below represents weight of 5 pupils. Study it and answer the questions that follow.



i) How heavy is Ronald?

ii) Name the pupils with the same weight

iii) How much heavier is Hakim than Ronald?

iv) How heavy is Aisha?

v) What is the average weight of the 5 pupils?

LESSON 2

TOPIC: ALGEBRA

SUBTOPICS

- Collecting like terms
- Collecting like terms and simplifying
- Forming Algebraic expressions from phrases
- Simplifying expressions by Removing brackets
- Simplifying Algebraic expressions
- Substitution (value expressions)
- Solving equations by subtracting
- Solving equations by adding
- Finding unknowns by
    a) Squaring
    b) Using square roots
- Finding sides of squares using square roots
- Finding the unknown sides of a figure using the perimeter
- Finding unknown sides of figure when area is given
- Finding the missing sides when volume is given
- Solving equations by dividing
- Solving fractional equations

- Forming and solving equations involving fractions
- Application of algebra

ALGEBRA

Collecting like terms

Examples

How many altogether?

1. 1 pen + 1pen + 1pen + 1pen

   1 p + 1p + 1p + 1p

   4p

   4pens

2. 4b + 3b – 5b

   7b – 5b

   2b

3. 5t – 9t + 7t

   5t + 7t -9t

   12t – 9t

   3t

4. x+y+2x+4y

   x+2x+y+4y

   3x+5y

ACTIVITY (Collecting like terms)

Work out algebraically by choosing the most suitable letter of the alphabet.

1. 2 bananas + 2 bananas

2. 4 cows + 4 cows + 10cows – 9 cows

3. 12 posts + 8posts – 10 posts

4. Three boys have. 5 books, 3books and 6 books respectively. How many books do they have?

5. A farmer had 13 cows. He sold off 5 cows. How many cows remained?

LESSON 3

COLLECTION *LIKE* TERMS AND SIMPLIFYING

Example

1) Write in short form:

2 balls + 2pens + 1 ball + 2 pens

= (2 balls + 1 ball) + (2 pens + 2pens)

= 3 pens + 4 pens

2. Collect like terms

9 apples + 4 eggs – 5 apples

= (9 apples 5 apples) + 4 eggs

= 4 apples + 4 eggs.

3. a + 2b + 3a

a + 2b + 3a = (a + 3a) + 2b

= 4a + 2b

ACTIVITY

Write in short form

1. 2 mangoes + 3 apples + 3mangoes + 1 apple
2. 10 oranges + 6 onions – 6 oranges

Collect like terms and simplify where necessary:-

3. 4b + 6p + 5b + 2p
4. 4b + 26b – 7b
5. 20t – 8t + 2
6. 7y – 8m + y + 10m – 6

LESSON 4

FORMING ALGERBRAIC EXPRESSIONS FROM ALGEBRAIC PHRASES

Examples

	Phrase	Expression
1.	Add b to a	a + b
2.	Subtract b from a	a – b
3.	Divide b by a	$\frac{b}{a}$
4.	Add 5 from n	n+5
5.	Multiply n by 5	n×5
6.	4 more than a	a+4
7.	x less than 12	12-x
8.	2 + x multiplied by 12	12(2+x)
9.	Peter is 4 years older than x	x +4 years
10.	Double P	2p

ACTIVITY

1. A number multiplied by 3 gives 18
2. 10 less than a number is the save as 3
3. A number divided by 12 equals to 4
4. Khamis is 5 years older than Namuwenge
5. Alex is 10 years younger than Alice
6. Five boys shared shs.2500 equally
7. When P is multiplied by 2 the result is 6
8. Add 9 to a number, the result is fourteen
9. The sum of 2x, x and 12 is 30

LESSON 5

SIMPLIFYING EXPRESSIONS BY REMOVING BRACKETS

1. Simplifying: 2(y+3) + 4(y +1)

   2(y+3)+4(y+1) ← Remove brackets

   = 2xy + 2x3 + 4xy + 4x1)

   = 2y + 6 + 4y + 4

   = (2y + 4y) + (6+ 4) ← Collecting like terms

   = <u>6y + 10</u>

2. Simplify: 4(t-3)+(5(2t + 4)

$4(t-3) + 5(2t + 4) = 4x\ t - 4x3 + 5x2t + 5x4$

(Remove brackets) ↗

$= \quad (4t + 10t) + (20 - 12)$

$= \quad \underline{14t + 8}$

ACTIVITY

Simplify the following expressions

1. (a) $3(m+2)+4(m-1)$ (b) $8(k-1) + 5(2k + 3)$
2. (a) $5(3n +4) + 8\ (2n - 2)$ (b) $16(x+3) +4(2x - 10)$