PRIMARY FIVE

MATHEMATICS

WORKBOOK

TERM III

THEME : MEASUREMENT

TOPIC 1 : MONEY

- Exchanging money
- Rates of buying and selling
- Finding unit price
- Finding total price
- Shopping bills and balance (change)
- Interpretation of tables.
- Finding profits
- Finding selling prices
- Finding loss

TOPIC 2: LENGTH, MASS AND CAPACITY

- Conversation of length millimeters to centimeters.
- Conversation of length centimeters to millimeters
- Finding the perimeter of a rectangle.
- Finding the perimeter of a square.
- Finding the perimeter of a triangle
- Finding the area of a rectangle.
- Finding area of a square.
- Finding area of a triangle

THEME: NEMERACY

INTERGERS

- Definition And description of integers
- Arranging integers in ascending order
- Arranging integers in descending order
- Comparing of integers using <, =, >
- Drawing arrows of positive integers.
- Drawing of arrows of negative integers.
- Giving the value of arrows.
- Adding integers without the number line.
- Subtracting integers without the number line.
- Solving simple word problems involving integers

THEME: ALGEBRA.

- Solving simple equations with addition.
- Solving simple equations with subtraction.
- Solving simple equations with multiplication.
- Solving simple equations with division.
- Collecting like terms.
- Forms algebraic expression.
- Solving simple word problems involving algebra

Date : ______________________

THEME: MEASUREMENTS

TOPIC 1: MONEY

Money is a medium of exchange of goods for goods and services for services.

LESSON 1:

Exchanging money

- Get many different notes and coins of sh. 1000, sh. 2000, sh 5000, sh. 10,000, sh. 20,000 and sh. 50,000
- Get many different coins e.g. sh. 50, sh. 100, sh 200, sh. 500 and sh. 1000

Note: To exchange large notes for small denominations, we divide the value of the large notes by the value of the small notes or coins.

Example I

1. Bakiza exchanged a 10,000shilling note for 500 coins. How many coins did he get?

   Sh. 10000 ÷ 500

   $$\frac{\overset{20}{\cancel{100}\cancel{00}}}{\underset{1}{\cancel{5}\,\cancel{00}}} = \textbf{20coins}$$

2. Find the number of sh 2,000 notes Nakandi received if she exchanged a 50,000 shilling note.

   sh. 50000 ÷ 2000

   $$\frac{\overset{25}{\cancel{50}\,\cancel{000}}}{\underset{1}{\cancel{2}\,\cancel{000}}} = \textbf{25 notes}$$

Activity

1. Rukiri exchanged a 1,000 shilling note for sh. 200 coins. How many coins did he obtain?

2. Find the number of notes of 1,000 shilling note, Anita got if she exchanged a 10,000 shilling note.

3. Find the number of 5000shilling note Grace will get if she exchanges a 50,000 note.

4. How many 2000 shilling notes can be got from 6,000 shillings?

5. How many 50 shilling coin can one obtain from a 20,000 shilling note.?

6. How many 200 shilling coin make 5000 shillings.

CORRECTIONS

Rates of buying and selling.

Steps taken

- *Multiply the quantity given by the unit price.*
- *The product obtained is the total price*

	Example 1 The cost of one pen is sh. 300. *Find the cost of 4 similar pens.* Sh. 300 x 4 **Sh. 1200** ***4 pens cost Sh, 1,200***		**Example II** The hawker sells each ruler at sh. 500. What is the cost of 8 such rulers? Sh. 500 x 8 **Sh. 4,000** ***8 rulers cost Sh. 4,000***
	LEARNER'S ACTIVITY		
1.	The cost of one shirt is Sh. 8,500. Find the cost of 2 similar shirts.	2	If 1 kg of rice cost Sh. 2,800. Find the cost of 3kg of rice
3.	(a) The cost Sh. 500. Find the cost of 2 similar rulers at the same rate.		

	(b) 6 similar rulers at the same rate.		
4.	(a) If one kg of sugar cost Shs. 4,800. What is the cost of: 3kg of sugar at the same rate?	b	7kg of sugar at the same rate?
5.	Calculate the amount it will cost 5kg of beans at sh. 2,000 per kg.	6	A box of chalk cost Sh, 2,700. How much will 4 similar boxes cost at the same rate?

CORRECTIONS

Date : _____

LESSON 2: Finding the unit price

Steps taken

❖ *Divide the total price by the quantity*

Example 1:

John bought 5 exercise books at Sh. 2,500. What was the cost of each book?

Method 1

Unit Price = $\frac{\text{Total price}}{\text{Quantity}}$

= $\frac{2500 \text{ Sh}}{5}$

= 500 Sh per book

Method II

5 books cost Sh. 2,500

1 book cost Sh. $\frac{2500}{5}$

500 Sh per book.

Example 2:

4 loaves of bread cost Shs. 12,000. Find the cost of a loaf.

Method 1

Unit Price = $\frac{\text{Total price}}{\text{Quantity}}$

= $\frac{12000 \text{ Sh}}{4}$

= 3,000 Sh each loaf

Method II

4 loaves cost Sh. 12,000

1 loaf costs Sh. $\frac{12000}{4}$

= Sh. 3,000

3000 Sh each loaf

LEARNER'S ACTIVITY

1. Two heaps of tomatoes cost Sh. 1,000. What is the cost of each heap?

2. $\frac{1}{2}$ kg of beans cost Sh. 800.

Find the cost of 1kg of beans

3.	7 dresses cost Sh. 56,000. Find the cost of one dress at the same rate.		
4.	One dozen of pens cost Sh 3,600. What is the price of each pen?	5.	3kg of meat cost Sh. 18,000. Find the cost of a kg of meat at the same rate.

CORRECTIONS

Date : _____

LESSON 3: Finding the total price

Steps taken

- *Divide the given total price by the given quantity.*
- *The quotient obtained is the unit price.*
- *Multiply the unit price by the variable quantity given in the question.*
- *The product obtained is the total price for the variable quantity.*

If 4 plates cost Sh. 4,800. Find the cost of 6 similar plates.

Method 1

Unit Price = $\frac{\text{Total price}}{\text{Quantity}}$

$= \frac{4800 \text{ Sh}}{4}$

= 1200 Sh per plate

Cost = 1200 Sh x 6

6 plates cost = 7,200 Sh.

Method II

4 plates cost Sh. 4,800

1 plate cost Sh. $\frac{4800}{4}$

= Sh. 1200 x 6

Therefore 1200 x 6

= Sh. 7200

6 plates cost sh. 7200.

2. If 4 litres of milk cost Shs. 4,800. What is the cost of 6 similar litres of milk?

4 litres cost Sh. 4800

1 litre costs Sh. $\frac{4800}{4}$

Sh. 1200

6 litres costs 6 x Sh. 1,200 = Sh. 7,200

3. 6 bottles of soda cost Sh. 4,800. Find the cost of 24 bottles of soda at the same rate.

Unit Price = $\frac{\text{Total price}}{\text{Quantity}}$

$= \frac{4800}{6}$ Sh

= 800 Sh per bottle

Therefore 800 Sh. x 24

24 bottles cost = Sh. 19,200

	LEARNER'S ACTIVITY		
1.	5kg of beans cost Sh. 6,000. Find the cost of 9kg of beans at the same rate.	2.	3 bottles of mineral water cost Sh. 1,800, Find the cost of 7 similar bottles of mineral water
3.	4 loaves of bread cost Sh. 8,000. What is the cost of 3 loaves of bread?	4.	Mary paid Sh. 9000 for 3 bars of soap. What will Peter pay if he is to get 2 bars of soap?
5.	Five bottles of mineral water cost Sh. 3,000. What is the cost of 2 same bottles of mineral water?	6.	A half litre of milk is sold at Shs. 600. How much money will one pay for 2 litres of milk?

CORRECTIONS

Date : _____

LESSON 4: Shopping bills and changes (balance)

NOTE:

- **BILL:** Is the sum for all total prices
- **CHANGE** is the difference of the bill and the money at the beginning .

Steps taken

♣ Find the total prices.

♣ Add all the total prices.

♣ The sum of total prices.

♣ The sum of total price is the bill.

♣ Subtract the bill from the money at the beginning.

♣ The difference is that change.

♣ **BILL** is the sum for all total prices.

♣ **CHANGE** is the difference of the bill and the money at the beginning.

1. A. primary five pupil bought 4 pens at Shs. 300 each and 8 books at sh. 500 per book. If the pupil had a ten thousand shilling note. How much change did he have after paying for the items?

Sh 800

book	**Pens**	**BILL**	**Change**
Sh. 5 0 0	Sh. 3 0 0	Sh. 4000	9
x 8	x 4	Sh+ 1200	Sh. 10,000
Sh. 4,000	Sh. 1,200	Sh. 5,200	- Sh 05,200
			Sh. 4,800

2. **Example II**

John bought $\frac{1}{2}$ kg of rice at Sh. 3000 per kg and 2 tins of cooking oil at Sh. 5000 each tin. How much money did he have before if he had change of Sh. 3500?

Rice	**Cooking oil**	**Total Amount spent**	**The amount of money he had**
$\frac{1}{2}$ x 3000 $= 1500/=$	Sh. 5000 x 2 Sh.10,000	Sh. 10,000 Sh+ 1,500 Sh. 11,500	1 Sh. 11,500 - Sh 3,500 Sh. 15,000

1. **Example 3**

A teacher bought the following items:

2 loaves of bread at Shs 2,500 each and 1 tin of blue band at Sh. 3,000 and 3kg of sugar at 2500/= per kg.

How much did he spend?

(a)

Sh. 2500(bread)	Sh. 2500(sugar)	**BILL**
x 2	x 3	Sugar 7,500
Sh. 5000	**Sh. 7500**	Bread 5,000
		Blue band + 3,000
		Sh. 15500/=

(b) If he had a twenty thousand shilling note, calculate the balance.

= 2 0, 0 0 0 – 15,50 0

= **4,500/=**

LEARNER'S ACTIVITY

1(a) Opio bought the following items from the market.

4kg of meat at Shs 6,000 each kg.

3 bunches of matooke at Sh. 15,000 each kg.

If Opio had one hundred thousand shillings, how much did he spend on

Meat?

(ii).	Bunches of matooke?		
(b)	Calculate his total expenditure		(c) What was his change
2	Jane had Sh. 1000, she bought 3 pencils at Sh. 150 each and 2 sweets at Sh. 200 per sweet. How much money did she remain with after paying for the items?		
3.	A woman bought 5kg of beans at Sh. 1,600 per kg and $1\frac{1}{2}$ items of paraffin at Sh. 2,800 a litre. If she had a fifty thousand shillings note, What was her change?		

5.	The cost of each bag in a certain shop is Sh. 8,500. John buys 3 bags, a pair of bed sheets at Sh. 25,000. How much did John have before if the seller gave him change of sh. 9,500?
6.	If 1kg of salt cost Sh: 1,000 and 2 bags of charcoal at Sh. 50,000. Nalubata has sixty thousand shillings and she needs 2kg of salt and ½ a bag of charcoal. ***How much money will she remain with?***

CORRECTIONS

Date : _____

LESSON 5: Interpretation of tables

Steps taken

- ❖ Find the total price and fill it correctly (TP=UxQ)
- ❖ Find the unit price and fill it correctly. (u = TP ÷ q)
- ❖ Find the quantity and fill it correctly (Q = T.P ÷ U.P)
- ❖ Add the total prices to get the bill and fill it correctly

Example 1:

Complete the bill table below

Item	**Quantity**	**Unit price**	**Total cost**
Bottle of soda	4 bottles	Sh.800 each	Sh. 3,200
Beans	½ kg	Sh. 1600 per kg	Sh. 800
Milk	3 litres	Sh. 1200 each	Sh. 3,600
Book	6 books	Sh. 500 each	Sh. 3,600
		TOTAL	**Sh. 10,600**

Solution

Soda	**Beans**	**Milk**	**Books**	**Total expenditure**
800= x 4 3,200	1kg = 1000g $\frac{1}{2}$ x 1600= = 800/=	1L = 1200 3L =3 x1200 = 3,600	500 x 6 3,000	1 3200/= 3600/= 3000/= 800/= 10,600/=

(b) If the buyer of the items was left with a change of Sh. 1400.

How much did he have before?

8 2 0 0/=	1 4 0 0/=
+ 1 4 0 0/=	+ 9 6 0 0/=
9 6 0 0/=	11,000/=

LEARNER'S ACTIVITY

1. ***Complete the etable correctly***

Item	**Quantity**	**Unit price**	**Total cost**
Soda	3 bottles	Sh.800 @ bottle	Sh. _____
Mineral water	____ bottles	Sh.600 @ bottle	Sh 2,400
Bread	4 loaves	Sh. 2,800 a loaf	Sh. _____
Sugar	1½ kg	Sh. _____ per kg	Sh. 6,000
EXPENDITURE			**Sh.** _____

(b) If Sarah had Sh. 20,000, how much was her change?

2. The table below shows Akello's expenditure. Use it to answer the questions that follow.

Item	**Quantity**	**Unit price**	**Total cost**
Glasses	8 glasses	Sh.1,500 @ glass	_____
Plates	_____	Sh.2,000 @plate	Sh 10,000
Peas	3kg of peas	Sh. _____	Sh. 7,500
Omo	4 packets of omo	Sh. 2,400 a packet	Sh. _____
EXPENDITURE			**Sh.** _____

(b) If Akello had Shs 72,000, how much balance did she get?

CORRECTIONS

Date : _____

LESSON 6: Finding profit

Profit is realized when the selling price of an article is greater than the buying price

Steps taken

- Subtract the buying price from the selling price.
- The difference obtained is the profit.

Example:

1.	A man bought a sheep at Sh. 65,000 and sold it at Sh, 70,000. What profit did he make? Profit – selling price – Buying price. 7 0,0 0 0/= - 6 5,0 0 0/= 0 5, 0 0 0/= He made 5000/= profit	2.	A business woman bought a dress at Sh 8,000 and sold it at Sh. 9,500. What profit did she make? Profit – Selling price – Buying price 9,500 sh 8,000 sh 15,000 sh She made 1500/= profit

LEARNER'S ACTIVITY

1.	John sold his radio at Sh. 47,000 if he had bought it at Sh. 40,000. What profit did he make?	2.	A trader bought a bag at Sh. 12,000 and sold it at Sh. 15,000. Find his profit.

3.	A lady bought a tray of eggs at Sh 5,500 and sold it at Sh. 6,000. What profit did she make?	4.	A man bought a pair of shoes at Shs 20,000 and sold it at Sh. 25,000. Find the profit he made
5.	A farmer sold a box of tomatoes to a trader at Sh. 54,000/=. If he sold the tomatoes to his customers and collected 60,000/=. How much profit did the trader make?		

CORRECTIONS

Date : _____

LESSON 7: Finding the selling price given both the profit and the buying price.

Steps taken

- Add both the buying price and profit.
- The sum obtained is the selling price.

Example:

1. Nalongo bought a bunch of matooke at Sh. **13,000** and sold it making a profit of Sh. **1,500.** How much did she sell the bunch of matooke?

   13,000/=
   + 1,500/=
   14,500/=

LEARNER'S ACTIVITY

1. A girl bought a ruler at Sh. 500 and sold it making a profit of Sh. 200. How much did she sell the ruler?

2. Walusimbi bought a goat at Shs. 45,000 and sold it making a profit of Sh 5,000. How much did he sell the goat?

3.	After buying an article at Sh. 19,000, a trader sold it later then realized a profit of Sh. 4,000. How much did the trader sell the article?	4.	Obote bought a shirt at Sh. 5,000. After selling it he made a profit of Shs, 2,500. What was the selling price of the shirt?
5.	Peter bout 5 litres of milk at shs. 1,200 each. After selling the milk, he made a profit of Shs 2,000 for the whole milk. Find the amount at which he sold the milk.		
(b)	How much did he sell each litre of milk?		
6.	A trader sold a phone to a customer at Shs. 82,000 and made a profit of Shs. 6,000. How much did the customer pay for the phone?		

CORRECTIONS

Date : _____

LESSON 8: Finding the loss

Loss is realized when the buying price is greater than the selling price of the item (an article).

Steps taken

- Subtract the selling price from the buying price.
- The difference got is the loss.

Example 1

A lady bought a dress at 12,000 sh. and later sold it at 9,500 sh. What loss did she make?

Loss + Buying Price – Selling Price

1 2,0 0 0/= - 9, 5 0 0/=

= 2, 5 0 0 sh

LEARNER'S ACTIVITY

1.	A trader bought a bull at Sh. 670,000 which he later sold at 590,000 Sh. Find the loss he made.	2.	Becca bought a pair of shoes at 25,000/= and later sold to Robinah at Sh. 19,000. Calculate the loss she made.
3.	Musa bought the television set at 280,000 sh and later sold to a friend at Sh. 245,000. What loss did he make?		

4	A trader sold an article at shs 19,000 which he had bought at sh. 25,000. Find the loss he made.
5.	A teacher bought a text book at sh. 24,000 and sold it to a parent at sh. 21,000. What loss did the teacher make?

CORRECTIONS

Date : _____

LESSON 9: Expressing centimeters as millimetres

Steps taken

- ♣ Multiply the length in cm by 10mm.
- ♣ Divide accurately.
- ♣ The product obtained is the length in mm.

Example 1	**Example II**
How many millimeters are in one centimeter? 1 cm = 10mm	Express 14cm as millimeters 1cm = 10mm 14 cm = 14 x 10mm = **140 mm**
Example III Convert $\mathbf{1\frac{1}{2}}$ cm to millimeters 1 cm = 10mm $\mathbf{1\frac{1}{2}}$ cm = $\frac{3}{\cancel{2}}$ x $\cancel{10}^{5}$mm = 3 x 5 mm = **15mm**	**Example IV** Change 2 cm to mm 1cm = 10mm 2 cm = 2 x 10mm **= 20mm**

	LEARNER'S ACTIVITY
1.	How many millimeters are in 2cm?
2.	Express the centimeters below as millimeters 7 cm

(b)	30cm	(c)	2.5 cm
(d)	14cm	(e)	29 cm

CORRECTIONS

Date : _____

LESSON 10: Changing millimeters to centimetres

Steps taken

- Multiply the length in mm by $\frac{1}{10}$ cm
- Divide accurately.
- The quotient obtained is the length in cm.

Example 1:

1.	Change 50 millimetres to centimeters. **Method 1** 1 mm = $\frac{1}{10}$ cm Therefore 50mm = 50 x $\frac{1}{10}$ cm = $\frac{50}{10}$ cm = 5cm	**Method 1** **10mm = 1 cm** **50mm** = $\frac{50}{10}$ cm = 5cm
2.	**Convert 23 millimetres to centmetres.** **Method 1** **1 mm** = $\frac{1}{10}$ cm Therefore 23mm = 23 x $\frac{1}{10}$ = $\frac{23}{10}$ cm = 2.3cm	**Method II** **10mm = 1 cm** **23mm** = $\frac{23}{10}$ cm = 2.3cm
3.	**How many centimeters are in one millimeter?** 10 mm = 1 cm 1 mm = $\frac{1}{10}$ cm = **0,1 cm**	

	LEARNER'S ACTIVITY		
1.	How many millimeters are in 40 centimetres?		
2.	***Convert the following millimeters to centimeters;***		
(a)	**90mm**	**(b)**	**18mm**
(c)	**6 mm**	**(d)**	**280 mm**
(e)	**37 mm**	**(f)**	**10 mm**

CORRECTIONS

Date : _____

LESSON 11: Finding perimeter of rectangle

Perimeter is the total distance round the given figure.

Perimeter of a rectangle.

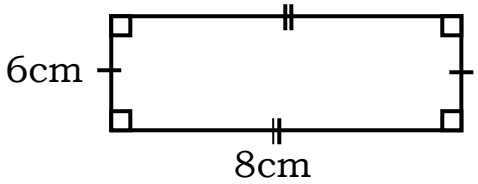
Steps taken

- Add the side, length given.
- The sum obtained is the distance round the shape.

Example

1. ***Find the perimeter of the figure below.***

(a)



Method 1

P = L + W + L + W

P = (8 + 6 + 8 + 6) cm

P = 28 cm

Method II

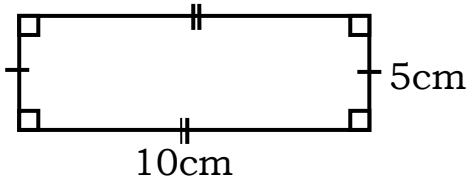
P = 2(L + W)

P = 2(8+6)cm

P = 2 x 14cm

= 28 cm

(b)



Method 1

P = $S_1 + S_2 + S_3 + S_4$

= 10m + 5m + 10m + 5m

= 30 m

Method II

P = 2(L + W)

2(10 + 5)

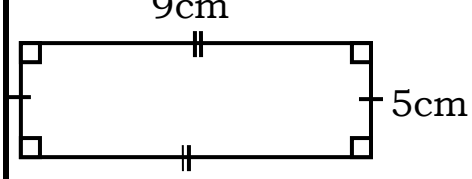
2 x 15

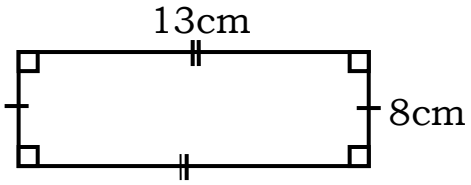
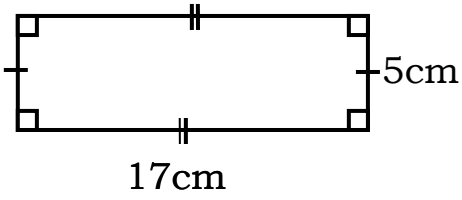
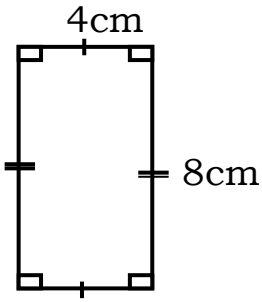
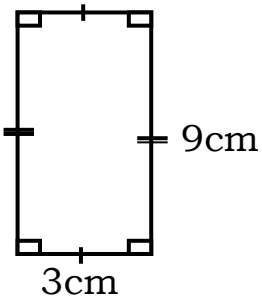
= 30 m

LEARNER'S ACTIVITY

1. ***Calculate the perimeter of these figures.***

(a)



(b)		(c)	
(d)		(e)	
2.	Calculate the perimeter of a rectangle which measures 12cm long and 8 cm wide.	3.	Work out the perimeter of a rectangle which measures 15cm by 7cm.

CORRECTIONS

Date: _____

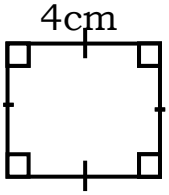
LESSON 12: Perimeter of a square

- ✓ A square has four equal sides
- ✓ To get the distance round the square we multiply 4 by the side length.

Example

1. ***Find the perimeter of the square.***

(a)



Method 1

$P = S_1 + S_2 + S_3 + S_4$

$P = (4 + 4 + 4 + 4)$

Method II

$P = 4s$

$P = 4 \times 4$ cm

= 28 cm

Example 2

Find the perimeter of a square whose length is 6cm

Method 1

$P = S_1 + S_2 + S_3 + S_4$

$= 6cm + 6cm + 6cm + 6cm$

= 24cm

Method II

$P = 4s$

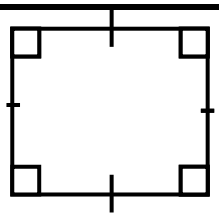
$= 4 \times 6$

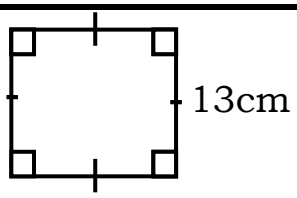
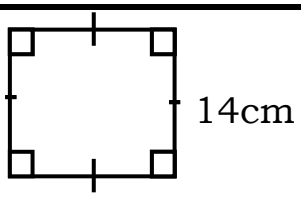
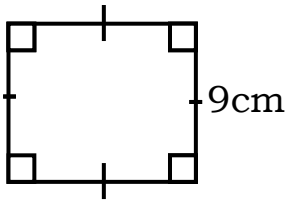
= 24cm

LEARNER'S ACTIVITY

1. ***Workout the perimeter of the squares drawn.***

(a)



(b)		(c)	
(d)			
2.	***Calculate the perimeter of a square whose;***		
(a)	Side length is **12cm**	(b)	Side length is 14m
(c)	Side length is 15cm		Side length is 20m

CORRECTIONS

Date: _____

LESSON 13: Perimeter of a triangle

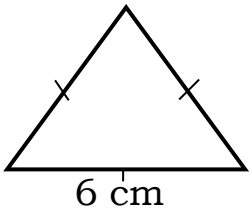
Steps taken

✓ Add the side length.

✓ The sum is the distance around the triangle.

Example

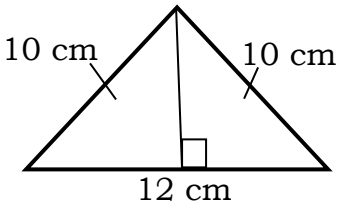
(a)



$P = S_1 + S_2 + S_3$

P = 6cm + 6cm + 6cm

= 18cm



$P = S_1 + S_2 + S_3$

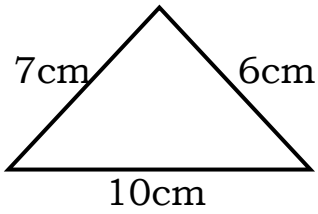
P = 12cm + 10cm + 10cm

= 32cm

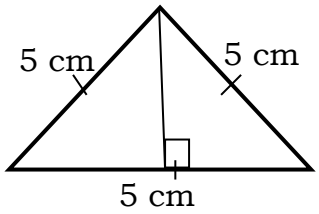
LEARNER'S ACTIVITY

1. ***Find the perimeter of the figures below:-***

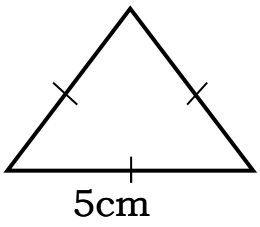
(a)



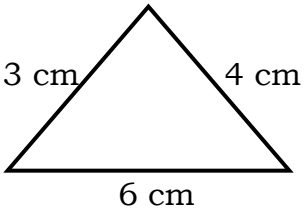
(c)



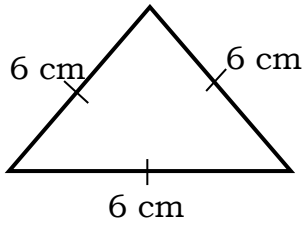
(b)



(d)



(e)



CORRECTIONS

Date: _____

LESSON 14: Finding the area of a rectangle

Note:

- A rectangle has two short sides called width.
- A rectangle has two longer sides called length.

Steps taken

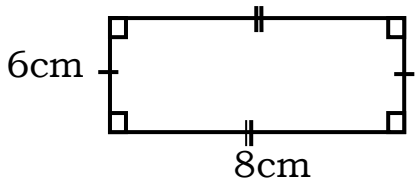
❖ Multiply the given length by width.

❖ The product obtained is area.

Example

1. ***Find the perimeter of the figure below.***

(a)

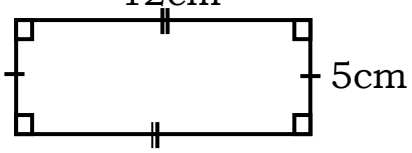


A = L x W

A = 8cm x 6cm

A = 48 sq. cm

(b)



A = L x W

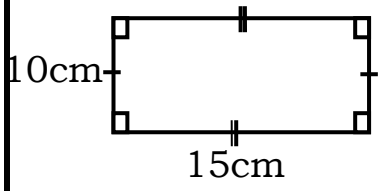
A = 12cm x 5cm

A = 60 sq. cm

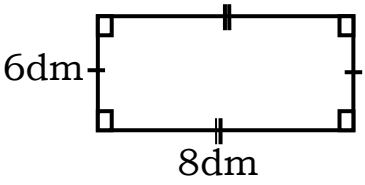
LEARNER'S ACTIVITY

1. ***Find the areas of the rectangles below***

(a)



(b)



2. A rectangular flower garden measures 9cm by 5cm. What is the area of the flower garden?

3.	A rectangular piece of cloth measures 14.5cm by 6.5cm. What is its area?	4.	Workout the area of a rectangle whose length is 12m and width 6m
5.	Find the area of a rectangle whose length is 10dm long and 7dm wider		

CORRECTIONS

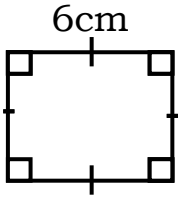
Date: _____

LESSON 15: Finding the area of a square

Examples

1. ***Find the area of the square below:-***

(a)

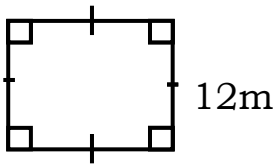


A = S x S

A = 6cm x 6cm

A = 36 sq. cm

(b)



A = S x S

A = 12m x 12m

A = 144 sq. cm

2. The length of each side of a square is 5m. What is its area?

A = S x S

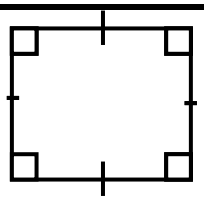
A = 5m x 5m

= **25sq.m**

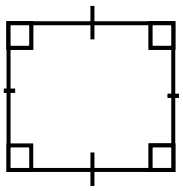
LEARNER'S ACTIVITY

1. ***Find the area of the squares below:-***

(a)



(b)



2. A square garden has a length of 10cm. What is the area of the flower garden?

3. The length of a flower garden is 9m. What is the area of the square?

CORRECTIONS

Date: _____

LESSON 16: Finding the area of a triangle.

Steps taken

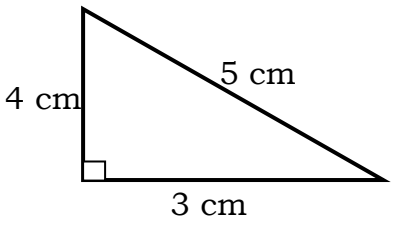
- ✓ The area of a rectangle divided by two forms the area of a triangle.
- ✓ Area of a rectangle = L x W
- ✓ Area of a triangle = $\frac{1}{2}$(Lx W)

  = $\frac{1}{2}$ (b x h)
- ✓ Where h stands for perpendicular height.
- ✓ Where b stands for base of the triangle.

Example

Find the aea of the triangles below:-

)

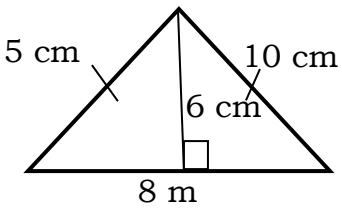


A = $\frac{1}{2}$ x b x h

= $\frac{1}{\cancel{2}}$ x 3cm x $\cancel{4}^{2}$cm

= 3cm x 2cm

= 6sq.m



A = $\frac{1}{2}$ x b x h

= $\frac{1}{\cancel{2}}$ x $\cancel{8}^{4}$cm x 6cm

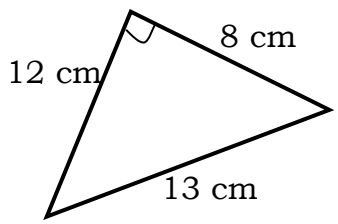
= 4cm x 6cm

= 24sq.m

LEARNER'S ACTIVITY

1. ***Find the perimeter of the figures below:-***

(a)

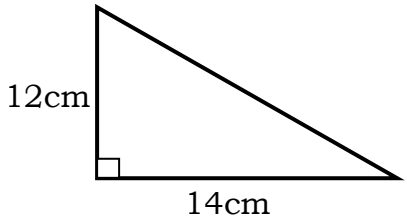
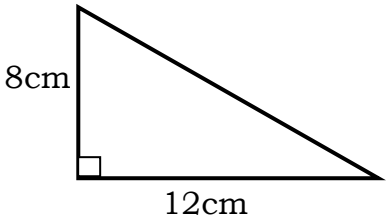
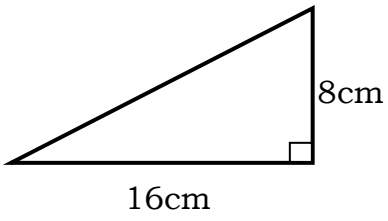
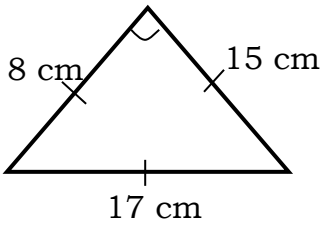


A = $\frac{1}{2}$ x b x h

= $\frac{1}{\cancel{2}}$ x $\cancel{12}^{6}$cm x 5cm

= 6cm x 5cm

= 30sq.m

	LEARNER'S ACTIVITY		
1.	**Find the area of the triangle below:-**		
(a)		(b)	
(c)		(d)	
(e)	The base of a triangle is 4cm, the height is 3cm. Find it's area.	(f)	*Calculate the area of a triangle whose base is 18m and height of 10m*

CORRECTIONS

Date : _____

LESSON 17: Mass

❖ The basic unit for mass is grams.

Kg	Hg	Dg	G	Dg	Cg	Mg
1	0	0	0			

Changing kilograms to grams

Note:

When changing a big unit to a small unit, we multiply.

Steps taken

❖ Multiply the mass in kg by 1000g.

❖ The product got is the mass in grammes.

1. **Examples:**

Express 2kg in grams

1kg = 1,000g

= 2 x 1000g

= 2,000g

2. **Change 4.5kg to g**

1kg = 1000g

$= \frac{45}{10}$ x 1000g

= 4,500g.

Change 4.5kg to g

1kg = 1000g

$= \frac{15}{2}$ x $\overset{500}{\cancel{1000}}$gm

= 15 x 500gm

= 7500gm.

LEARNER'S ACTIVITY

1. How many grams are in 1kg?

2. Express the following kilograms in grams.

(a) 8kg

(b)	3½ kg	(c)	5.4kg
(d)	14.25kg	(e)	10kg

CORRECTIONS

Date : _____

LESSON 18: Expressing grams as kilograms

Note: *When changing a small unit to a big unit we divide.*

Steps taken

- Multiply the mass in grams by $\frac{1}{1000}$ g
- Divide accurately.
- The quotient is the mass in kg.

Example 1:

How many kilograms are in one gram?

$\frac{1}{1000}$ g = 1kg

1g = $\frac{1}{1000}$ kg

= 0.001kg.

Example II

Change 4000g to kg

METHOD 1

1000g = 1kg

4000g = $\frac{4000}{1000}$ kg

= **4kg**

Example III

Convert 250 grams to kilograms.

METHOD 1

1000g = 1kg

250g = $\frac{250}{1000}$ kg

= **0.25kg**

LEARNER'S ACTIVITY

Change these grams to kilograms

1.(a)	7000g	(b)	24g

(c)	350g	(d)	8900g
(e)	600g		

CORRECTIONS

Date : _____

LESSON 19: Capacity / changing litres to milliliters

- Capacity is the amount of liquid contained in a prism,
- Capacity is measured using litres milliliters.

Changing litres to milliliters

Kl	Hl	Dl	L	dl	Cl	ml
			1	0	0	0

1 litre = 1000 milliliters

Steps taken

❖ Relate litres to milliliters that one litre is equal to 1000ml.

❖ Multiply the given quantity by 1000 and get your result in ml.

1.

Example 1:

Express 5 litres as milliliters

1L = 1000ml

5L = 5 x 1000ml

= **5,000ml**

Example 2

Convert 1½ L to ml

1L = 1000ml

$1½ L = \frac{3}{\cancel{2}}^{500} \times \cancel{1000}ml$

= 3 x 500ml

= **1500ml**

Example 3:

Change 1.5 litres to milliliters

1L = 1000ml

$1.5L = 15 \times \frac{1000}{10}$ ml

= 15 x 100ml

= **1500ml**

LEARNER'S ACTIVITY

1. (a) ***Change these litres to milliliters***

3litres

(b)	0.9 litres	(c)	3.5 litres
(d)	48 litres	(e)	10 litres

CORRECTIONS

Date : _____

LESSON 20: Expressing milliliters as litres

Steps taken

- Relate Millilitres to litres i.e. 1000ml = 1L
- Divide the quantity your converting by 1000 and get your result in litres.

1.

Example 1:

Change 4000 millilitres to litres

METHOD 1

1000ml = 1L

$4000ml = \frac{4000}{1000} L$

= **4L**

METHOD II

$1ml = \frac{1}{1000} L$

$4000ml = 4000 \times \frac{1}{1000}$

= **4litres**

Example II

Express 2,500 millilitres as litres.

METHOD 1

1000ml = 1L

$2500ml = \frac{2500}{1000} L$

= **2.5L**

METHOD II

$1ml = \frac{1}{1000} ml\ L$

$2500ml = 2500 \times \frac{1}{1000}$

$= \frac{25}{10}$

= **2.5litres**

2. **Convert 3457 millilitres as litres**

1000ml = 1L

$3457ml = \frac{3457}{1000}$ litres

= **3.457 litres**

LEARNER'S ACTIVITY			
1.	***Change these milliliters to litres***		
(a)	*5000ml*		
(b)	*6208ml*	(c)	*7,400ml*
(d)	*10000ml*	(e)	*800ml*

CORRECTIONS

	Date : _____ **THEME: NUMERACY** **TOPIC 3: INTEGERS** **LESSON 21: Definition and description of integers** **Note:** • Integers are made up of negative numbers, zero and positive numbers. • Zero is neither a negative integer nor positive integer. • Positive integers are written with a plus sign or without. • Negative integers are written with a minus sign. • Integers can be represented on the number line.
	Examples of positive numbers are:- +1, +2, +3, +10, +100 etc Positive integers can also be written without a sign e.g. 1, 2, 3, 4, 5, 100, 200
LEARNER'S ACTIVITY	
(a)	What are integers?
(b)	Write down the two types of integers.
(c)	Write any 3 examples of positive integers.
(d)	Write down any four examples of negative integers.
(e)	Which integer is referred to as the neutral / integer?

CORRECTIONS

Date : _____

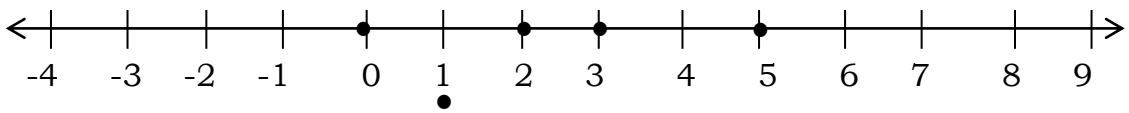
LESSON 22: Arranging integers in ascending order

Lesson hints

- ✓ Define ascending order as arrangement from the smallest to the biggest.
- ✓ Plot the given integers on a number line
- ✓ Write the integers starting from the left to the right.

Example1:

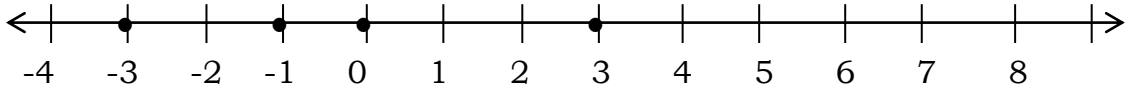
Arrange: 0, 2, 1, 5, 3 in ascending order



0, 1, 2, 3, 5

Example 2:

Write -1, -3, 0, 3, 1, starting with the smallest



-3, -1, 0, 1, 3

LEARNER'S ACTIVITY

Arrange the following in ascending order using a numberline.

(a) 1, 3, 2, 0, 4

(b) -1, -2, -4, -3, 0

(c)	-1, -2, -4, -3, 0
(d)	4, 3, 2 0 -1, -3
(e)	-1, 4, -5 -2 0
(f)	-3, +2, +1 0 2

CORRECTIONS

Date : _____

LESSON 23: Arranging integers in descending order

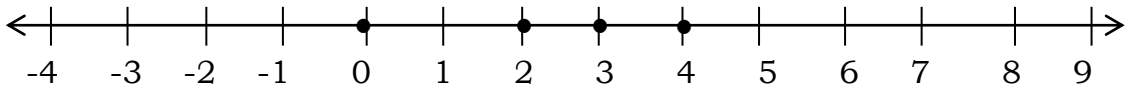
Lesson hints

- ✓ Descending order means order from the biggest to the smallest.
- ✓ Draw a number line having negative and positives.
- ✓ Plot the given integers on a number line.

Example1:

Arrange the integers below in descending order.

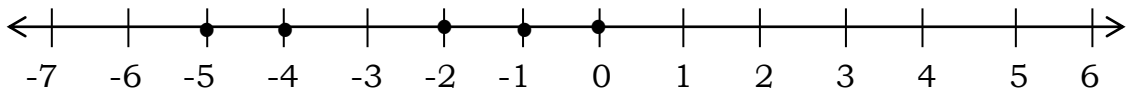
$^{+}4$, $^{+}2$, 0, $^{+}3$



Order: $^{+}4$, $^{+}3$, $^{+}2$, 0

Example 2:

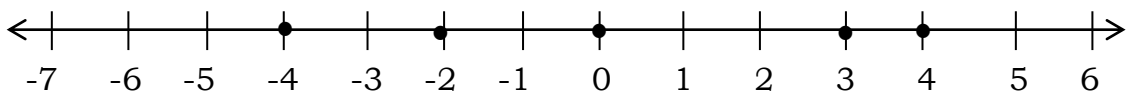
Arrange -4, -5, -1, 0, -2 in descending order



Order: 0, -1, -2, -4, -5

Example 3:

Arrange -4, -2, -$^{+}3$, 0, $^{+}4$ from the biggest to smallest.



Order: $^{+}4$, $^{+}3$, 0, -4

	LEARNER'S ACTIVITY
	Arrange the integers below in descending order
(a)	4, -1, -6, 0, -2
(b)	$^{+}4$, $^{+}2$, $^{+}3$, $^{+}5$,
(c)	-2, $^{+}2$, 0, $^{+}3$, $^{+}4$
(d)	$^{+}4$, -4, $^{+}2$, $^{+}3$, -3
(e)	0, -1, +1, +3 -4, -3

CORRECTIONS

Date : _____

LESSON 24: Comparing integers using < , =, >

Lesson hints

- ✓ All negative integers are smaller than positive integers.
- ✓ The bigger the negative integer, the smaller the value and the smaller the negative integer the bigger the value.

Example1:

Use: >, = or < to complete.

(i) 4 > 0

(ii) 4 < 9

(iii) 2 > 4

(iv) 5 = 5

LEARNER'S ACTIVITY

Complete the statements below using >, = or <

(a)	4 _____ 2	(b)	$^{+}4$ _____ $^{+}3$
(c)	5 _____ $^{+}7$	(d)	$^{-}4$ _____ 0
(e)	0 _____ -1	(f)	$^{+}2$ _____ $^{+}2$

CORRECTIONS

Date : _____

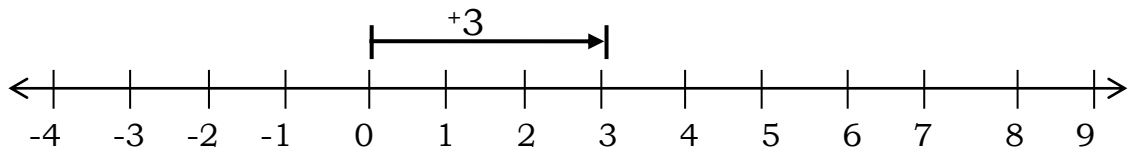
LESSON 25: Drawing arrows of positive integers.

Steps to take

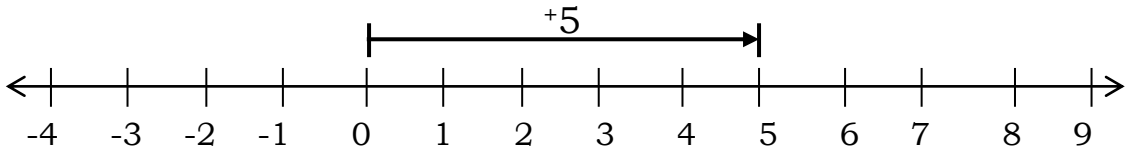
- ✓ Draw a number line.
- ✓ An arrow starts with either dot (,) or bar (I).
- ✓ It should end with an arrow ⟶
- ✓ A complete arrow should be like this. ⟶
- ✓ We count the number of spaces.

Examples:

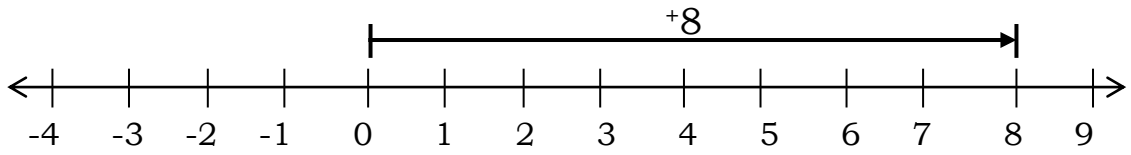
(a) Show +3 on the number line



(b) Show +5 on a number line



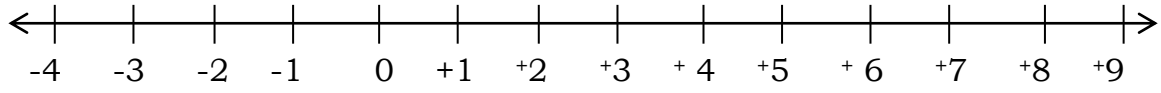
(c) Draw a number line and on it show +8

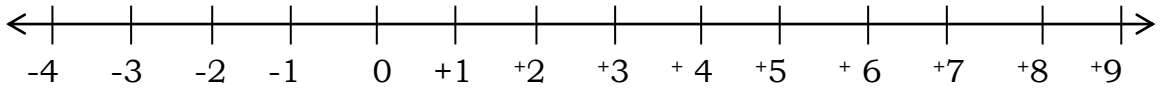
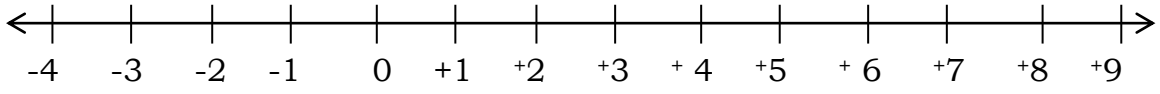
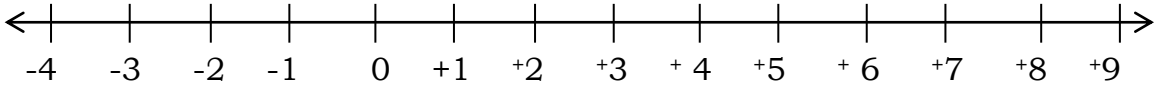
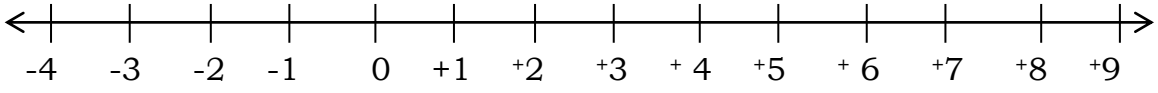
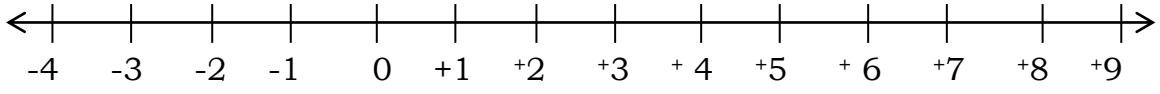


LEARNER'S ACTIVITY

Show the integers below on a number line

(a) +4



(b)	$^{+}7$  -4 -3 -2 -1 0 +1 +2 +3 + 4 +5 + 6 +7 +8 +9
(c)	$^{+}3$  -4 -3 -2 -1 0 +1 +2 +3 + 4 +5 + 6 +7 +8 +9
(d)	$^{+}1$  -4 -3 -2 -1 0 +1 +2 +3 + 4 +5 + 6 +7 +8 +9
(e)	$^{+}9$  -4 -3 -2 -1 0 +1 +2 +3 + 4 +5 + 6 +7 +8 +9
(f)	$^{+}6$  -4 -3 -2 -1 0 +1 +2 +3 + 4 +5 + 6 +7 +8 +9

CORRECTIONS

Date : _____

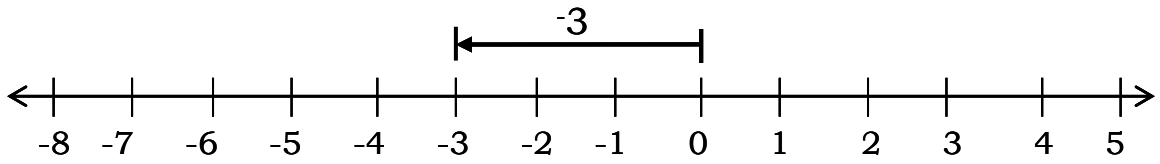
LESSON 26: Drawing arrows of negative integers.

Hints

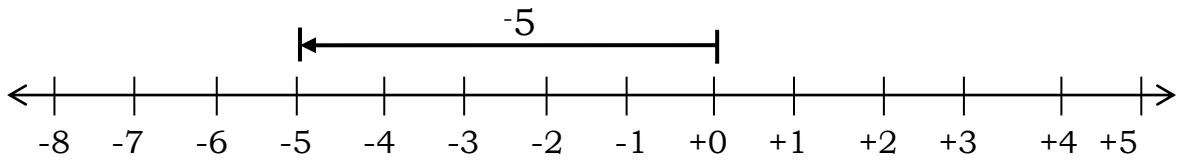
- ✓ An arrow starts with either a dot. (.) or a bar (I)
- ✓ It should end with an arrow. ←——
- ✓ A complete arrow should be. ←——|
- ✓ We count the number of spaces.

Example:

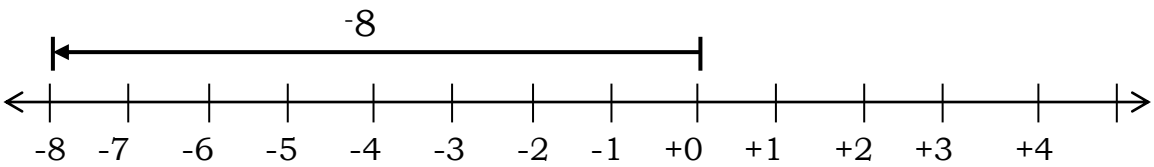
(a) Show -3 on a number line.

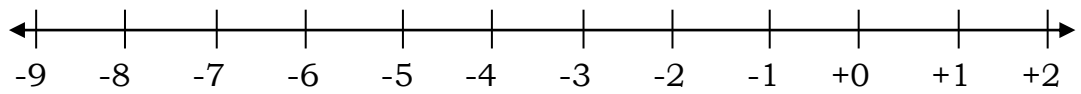
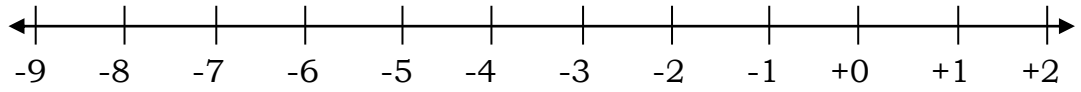
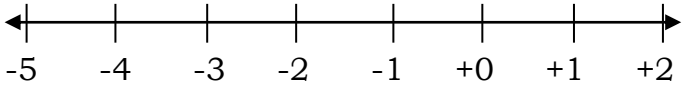
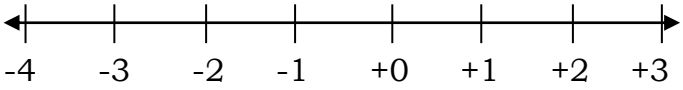
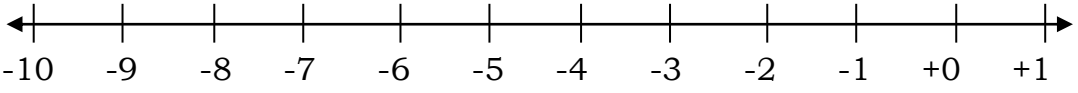
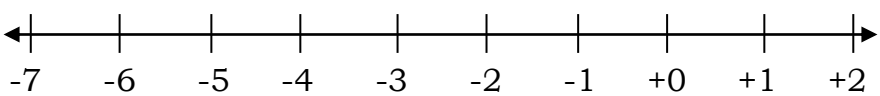


(b) Represent -5 on a number line



(c) Draw a number line and on it show -8



	LEARNER'S ACTIVITY
	Represent the integers below on a number line
(a)	-4 
(b)	-7 
(c)	-3 
(d)	-1 
(e)	-9 
(f)	-6 

CORRECTIONS

Date : _____

LESSON 27: Giving value of arrows

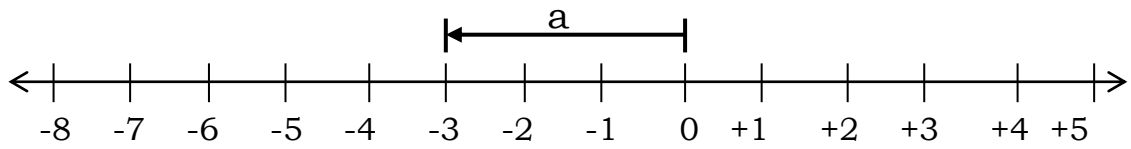
Lesson hint

✓ Count the space covered by the arrow.

✓ The sign is given following the direction of the arrow.

(a) **Example 1:**

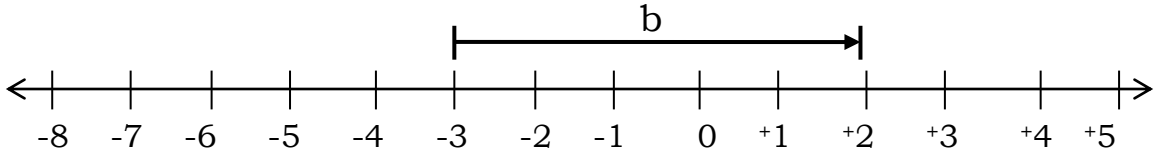
What integer is shown by the arrow a.



a = -3

(b) **Example 2:**

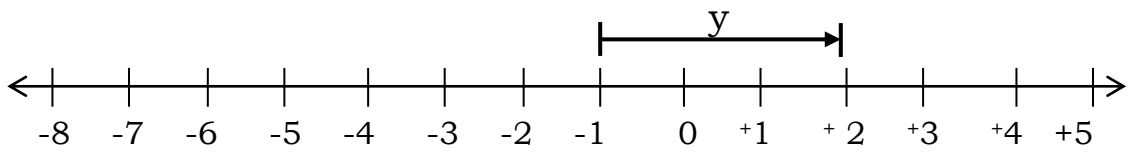
What integer is shown by the arrow b?



b = +5

(c) **Example 3:**

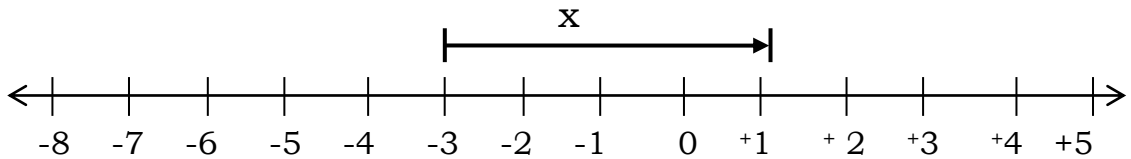
What integer is shown by the arrow y?



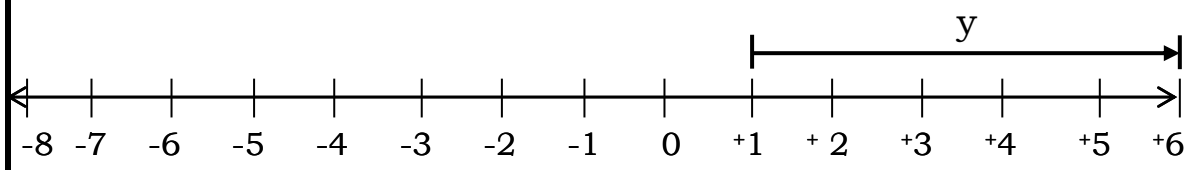
y = +3

LEARNER'S ACTIVITY

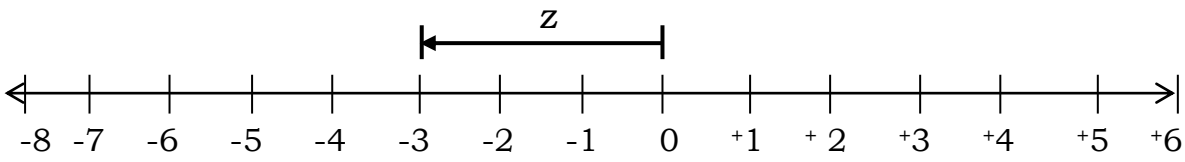
(a) Write the integers represented by the arrow.



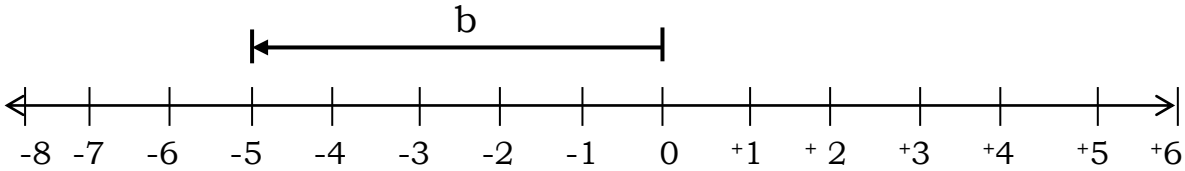
(b)


y
-8 -7 -6 -5 -4 -3 -2 -1 0 +1 + 2 +3 +4 +5 +6

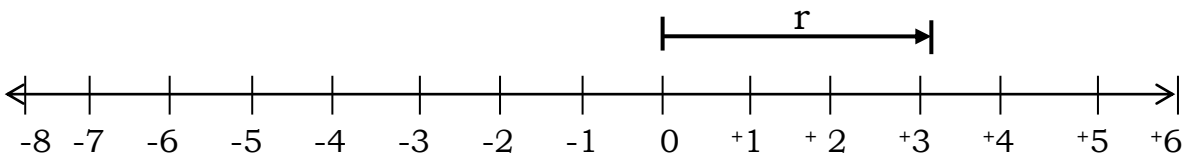
(c)


z
-8 -7 -6 -5 -4 -3 -2 -1 0 +1 + 2 +3 +4 +5 +6

(d)


b
-8 -7 -6 -5 -4 -3 -2 -1 0 +1 + 2 +3 +4 +5 +6

(e)


r
-8 -7 -6 -5 -4 -3 -2 -1 0 +1 + 2 +3 +4 +5 +6

CORRECTION

Date : _____

LESSON 28: Adding integers without using number line

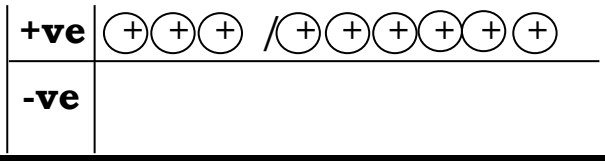
Steps taken

- ✓ Identify the integers.
- ✓ Pair where applicable.
- ✓ Give the answer by counting.

Example 1: Add +3 + 7

+3 + 7 =

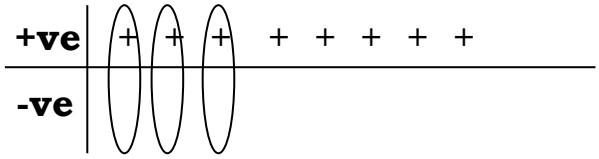
+10



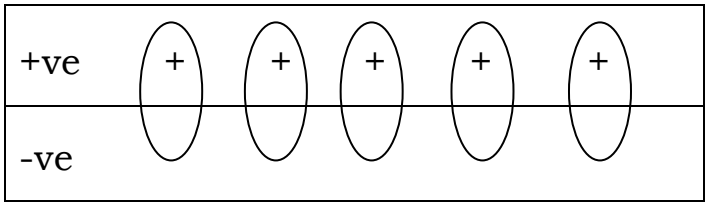
Example II: Workout: -3 + 8

-3 + 8

+5



Example III: Calculate: -7 + 5



7 + 5 = -2

LEARNER'S ACTIVITY

(a) -7 + 7

(b) -10 + 14

(c)	-2 + 7
(d)	+4 + 2
(e)	+9 + 3
(f)	-6 + 9
(g)	-4 + 5

CORRECTIONS

Date : _____

LESSON 29: Subtracting without using a number line.

Steps taken

- ✓ Match correctly and pair if applicable.
- ✓ Count to obtain the final outcomes.

Example 1: Subtract: -3 - 4

+ve - - - - - - -
-3 - 4 = -7

	LEARNER'S ACTIVITY
(a)	+2 - 7
(b)	6 - 3
(c)	+14 - 8

(d)	$^{+}9 - 9$
(e)	$^{+}8 - 4$
(f)	20 - 24

CORRECTIONS

Date : _____

LESSON 30: Solving word problems involving integers

Lesson hints

Words used for positive (+)

⊕ Profits

⊕ AD

⊕ Above sea level

⊕ Increase

⊕ Rise in temperature

Words used in negatives

⊕ Losses

⊕ Discounts

⊕ BC

⊕ Below sea level

⊕ Fall in

Example 1:

A man was born in 12 BC and died in 13AD. How old was he when he died.

= 13 - - 12

= 13 + 12

= 25 years.

Example 2:

The temperature was 20^0C in the morning. It rose by 5^0C in the afternoon. What was the temperature in the afternoon?

= 20^0C + 5^0C

= **25^0C**

LEARNER'S ACTIVITY

1. The temperature in the afternoon was 27^0C. It fell in the evening by 4^0C. Find the new temperature in the evening.

2.	Musoke bought goods with 24000/=. If he was given a discount of 2300/=. How much money did he pay?
3.	A trader bought a radio at 24,000/=. He sold it making a profit of 4300/=. At what price did he sell it?
4.	Waako was born in 21BC and died in 14AD. At what age did Waako die?
5.	Komando bought a shirt at 13000/= and sold it making a loss of 2000/=. At what price did he sell the shirt?

6.	The temperature of water was 380C. After being put in fire, the temperature rose by 06^0c. What is the new temperature of the water?

CORRECTIONS

	Date : _____ **LESSON 31: Solving equations involving addition** ***Steps tkaen*** ✓ Study the equation. ✓ Subtract from either side with the same value. ✓ Simplify correctly. **Examples:**		
1.	Solve: p + 4 = 9 P + 4 = 9 P + 4 - 4 = 9 - 4 **P = 5**		
2(a)	**Solve the equation:** k + 5 = 13 k + 5 = 13 k + 5 - 5 = 13 - 5 **k = 8**		
	LEARNER'S ACTIVITY		
1.	***Solve the following equations;***		
(a)	a + 5 = 7	(c)	k + 7 = 11
(b)	6 + y =	(d)	P + 3 = 9

(e)	q + 4 = 25	3.	If the sum of x and 4 is 10. Find the value of x.
3.	The sum of two numbers is 18. If one of the number is 8. Find the second number.		

CORRECTIONS

Date : _____

LESSON 32: Solving equations involving subtraction

Steps tkaen

- ✓ Study the equation.
- ✓ Add the either side with the same value.
- ✓ Simplify correctly.

Examples:

1. **Solve these equations.**

(a)
c – 3 = 7
c – 3 + 3 = 7 + 3
c = 10

(b)
g – 14 = 6
g – 14 + 14 = 6 + 14
g = 20

(c)
w - 17 = 14
w - 17 + 17 = 4 + 17
w = 21

(d)
k – 20 = 13
k – 20 + 20 = 13 + 20
k = 33

2. When 5 is subtracted from a number the answer is 15. What is the number?
P - 5 = 15
P – 5 + 5 = 15 + 5
P = 20

LEARNER'S ACTIVITY

Solve these equations

(a) n - 2 = 3

(b) t - 24 = 8

(c)	m - 12 = 8	(d)	Y – 17 = 13
(e)	P - 1 = 9	(f)	d – 7 = 25
(g)	x - 2 = 19		
2.	When 10 is subtracted from a number, the answer is 9. What is the number?		
3.	Think of a number, take away 5 from it the result is 8. What is the number?		

CORRECTIONS

Date : _____

LESSON 33: Solving simple equations with multiplication

Lesson hints

✓ Divide either side by the co-efficient of the unknown.

✓ The quotient is the answer.

Example	**Example 2**	**Example 3**
Solve for P	*Find the value of x*	*Solve for y:*
$2p + 4$	$3x = 9$	$5y = 25$
$\frac{2p}{2} + \frac{4}{2}$	$\frac{3x}{3} + \frac{9}{3}$	$\frac{5y}{5} + \frac{25}{5}$
P = 2	**P = 3**	**y = 5**

LEARNER'S ACTIVITY

Solve for the unknown letter

(a)	$2p = 6$	(b)	$4p = 8$
(c)	$5m = 10$	(d)	$3y = 15$
(e)	$7k = 14$	(f)	$10y = 100$

CORRECTIONS

	Date : _____ **LESSON 34: Solving equations by dividing** ***Steps taken*** ✓ Study the equation. ✓ Divide both sides by same value. ✓ Simplify correctly. **Examples** $\frac{m}{2}$ = 8 LCM = 2 $\frac{m}{2}$ x 2 = 8 x 2 **m = 16**
2(a)	**Solve for x** $\frac{x}{2}$ + 3 = 15 $\frac{x}{2}$ + 3- 3 = 15 - 3 $\frac{x}{2}$ = 12 LCM = 2. $\frac{x}{2}$ x 2 = 12 x 2 LCM = 2 $\frac{x}{2}$ x 2 = 12 x 12 **x = 24**

	LEARNER'S ACTIVITY		
1.	***Solve the equations***		
(a)	$\frac{k}{3} = 9$	(b)	$\frac{x}{4} + 7 = 19$
(c)	$\frac{2x}{5} + 6 = 16$	(d)	$\frac{m}{5} - 7 = 11$
(e)	$\frac{2y}{3} - 7 = 3$		
2.	Opio is k years old; James is 4 times as old as Opio. If their total age is 30 years. How old is each?		
3.	The three sides of a triangle are 2y, 3y and 4y. If the perimeter of the triangle is 36cm. Find the value of y.		

CORRECTIONS

Date : _____

LESSON 35: Forming algebraic expressions.

Lesson hint

Some words used:

- ✓ twice = 2x __
- ✓ thrice = 3x__
- ✓ double = 2x
- ✓ multiply = → x
- ✓ product = → x
- ✓ sum = → +
- ✓ difference = → -

Give the mathematical algebraic expressions

Example 1:	**Example 2**	**Example 3**
Twice the value of x = 2 *x* x = 2x	The sum of y and 5 (y + 5)	Double p and add 5 = (2 *x* p) +5 = 2p + 5

LEARNER'S ACTIVITY

1.	Twice the value of p	2.	The sum of p and 8
3.	The difference between k and 5.	4.	The product of t and p.
5.	Double y.	6.	The product of x and 2 plus 3

CORRECTIONS

Date : _____

LESSON 36: Solve simple word problems involved in algebra.

Lesson hint

- ✓ Read the question.
- ✓ Interpret
- ✓ Form the equation.
- ✓ Solve the equation.

Example 1:

Amooti had some mangoes and his brother added him more 5 mangoes, if he got 12 mangoes in total, how many mangoes did he have at first?

Let the number be x.

$x + 5 = 12$

$x + 5 - 5 = 12 - 5$

$x = 7$

He had 7 mangoes at first.

Example 2:

Think of a number, multiply it by 3 and the answer is 12. What is the number?

Let the number be P

$3 \times p = 12$

$\frac{3p}{3} = \frac{12}{3}$

$P = 4$

Example 3

What number is divided by 3 to give 5

Let the number be k

$\frac{k}{3} = 5$

$3 \times \frac{k}{3} = 5 \times 3$

$k = 15$

The number is 15

LEARNER'S ACTIVITY	
1.	Okello had some oranges and his brother Opio gave him 3 more oranges. If he had 10 oranges in total, how many oranges did he have at first?
2.	Think of a number, subtract 5 from it and the answer is 2. What is the number.
3.	James thought of a number, multiplied it by 5 and the product was 20. What was the number?
4.	What number is divided by 2 and gives 7 as the answer

5.	Find the number which Kakande added to 12 to get 25.
6.	The sum of a number and 7 is 12. What is the number?
7.	The product of x and 7 is 21. Find x.

CORRECTIONS

