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SOUTH'AFRICAN EXTENSION UNIT
BASIC MATHEMATICS
SCRIPT PROGRAMME 2 FOR UNIT 4

Play sig,Tune - Hold for 15" fade under Presenter
and bring up.

This is the Basic Mathematics course for the South
African Extension Unit. Cassette No.1 Programme 2
for Unit 4; and this is your Presenter Vusi Mthembu.

Bring up Sig. Tune: Hold for 10" and fade out

In unit 4 of your Basic gathematics course you learnt
some basic terms in Geometry. In today's programme
we are going to revise some of the important points
we observed l t e n't. Now here is our Math

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tutor Comrade who is going to tell you what
you will learn in this first part of the programme.
You will need your sheet for this programme, Unit 4,
pencil and some paper to write. Now if you have
all the things ready we can start, Comrade Pule

Thank you, Dear students, do you remember what you
learnt in unit 4 of your Basic Mathematics courswe?

In case you don't remember, this is another chance
for you to learn about Geometry. The programme is
going to be divided into two parts. In the first
part, we will revise on the definitions of points, line
Segments a rays and straight lines. In the second
part, we will see how these relate to each other.

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Now take your sheet for this programme. Look at figure 1. Here we have a picture of a point. A picture of a point is the smallest dot which we can make on paper with a sharp pencil. We can as well get an idea of what a point is from physical objects. These are:-

- the smallest grain of sugar
- the sharp point of a pin.

Can you think of any other objects? So, we see that a point has a position and no size. We label points by capital letters as shown in figure 2. Now look at figure 3 of your sheet, here we have two points which are connected by a straight drawing. We call a straight drawing a line segment. Notice that, a line segment starts at point A and ends at point B. Points A and B are called end points. We name a line segment by its two end points and put a bar over the two letters as shown in symbol 1 in your sheet. Now we can define a line segment as a straight drawing consisting of two end points, and all the points between them.

Again, look at figure 4 of your sheet. We have a straight drawing which starts at A and does not stop at B but extends indefinitely. Such a straight drawing is called a ray. A ray starts at one point and extends through the other point indefinitely. We call it a ray AB and label it 53. Look at Symbol 2. Notice where the arrow's head points in symbol 2. When two rays have a common end point and face in opposite directions we get a straight line as shown in figure 5 of your sheet. We call it straight line AB and label it as in Symbol 3; A straight line passes through two points and extends in either direction indefinitely. Here again notice the two pointed arrow over the two letters in Symbol 3.

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Now dear students let us summarize what we have so far been talking about. Remember we have said that:

1. - a point has position but no size

2. a line segment is a straight drawing

consisting of two end points and all

the points between them. It has length

but no width and no thickness.

3. a ray is a straight drawing which has one end point and extends through the other point indefinitely.

4. a straight line is a straight drawing which extends in either direction indefinitely.

Two points determine a straight line.

Now try to answer the following questions referring to figure 6 of your programme sheet.

(i) name all the straight lines

(ii) name 3 rays

(iii) name 4 line segments; and compare your answers with those provided by your group leader.

Play music for 10" and face out.

We are now through with the first part of the programme where we learnt some basic definitions in Geometry. In this second part of our programme we are going to see how the points, line segments, rays and straight lines relate to each other.

Again your tutor Comrade Pule is with us.

Over to you Comrade Pule

Okay, look at figure 7 of your list of figures.

In the figure, ray BA and BC have a common end-point. We say that the two rays make an angle.

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Therefore, an angle is formed when two rays have a common end point and no other points in common. The angle is called ABC or CBA and is labelled as ABC or CBA as seen in symbol 4. The common end-point is called the vertex and the two rays are the sides of the angle ABC. Notice that we put an inverted V over the letter at the vertex of the angle. Now let us see different types of angles.

- When two rays have a common end point and make a square corner we say they make a right angle.

Look at fig.8

- Two rays with a common end point and facing on opposite directions make a straight angle as seen in fig.9

- an angle which less than a right angle is called an acute angle, look at figure 7 of your sheet.

- an angle which is greater than a right angle but less than a straight angle is called an obtuse angle. See fig.10.

- an angle which is greater than a straight angle but less than two straight angles is called a reflex angle as seen in fig. 23/

That was comrade Pule our Mathematics tutor talking about the basic definitions in Geometry. Remember that, in this programme he has defined points, line segment, rays, straight lines and angles. Now try to do some exercise from your unit 4 the book you are using in Basic Mathematics course. So, until we meet again in the next programme, this is your presenter Vusi Mthembu' saying. Good-bye.

Play sig-Tune. Hold up 15" and fade out.