#### MATHEMATICS AND ICT

#### YOUR NAME: Bongani

Activity 4 - Planning Notes

Name: Euclidean Geometry Date: 18/08/03 Grade: 11 Topic: Similarity

### 1. Curriculum requirements relevant to this from LO 11.3.2 (b)

- A line parallel to one side of a triangle divides the two other sides proportionally and conversely, if a line divides two sides of a triangle proportionally, it is parallel to the third side. (Theorem)
- Definition of similarity
- If two triangles are equiangular, the corresponding sides are proportional and conversely, if the corresponding sides of a triangle are proportional the triangle is equiangular.
- Equiangular triangles are similar, and if the corresponding sides of two triangles are proportional, the triangles are similar. (Theorem)
- The perpendicular drawn from the vertex of the right angle of a right-angled triangle to the hypotenuse, divides the triangle into two triangles which are similar to each other and to the original triangle. (Theorem)
- The theorem of Pythagoras and its converse. (Theorem)

# 2. Critical and Specific outcomes for Mathematics that could be developed.

#### Seven Critical Outcomes (out of):

- 1. Identify and solve problems in which responses display that responsible decisions using critical and creative thinking have been made
- 2. Work effectively with others as members of a team ,group, organisation, community
- 3. Collect, analyse, organise and critically evaluate information
- 4. Communicate effectively using visual, mathematical and/or language skills in the modes of oral and/or written presentation
- 5. Use science and technology effectively and critically, showing responsibility towards the environment and health of others

#### Plus (out of 5):

- 1. Reflecting on and exploring a variety of strategies to learn more effectively.
- 2. Exploring education and career opportunities, and
- 3. Developing entrepreneurial opportunities.

## **3.** Learning outcomes statements for this learning experience.

#### By the end of this learning experience learners should be able to:

- Understand, state and apply 11.3.2 of curriculum statement
- Identify and define similarity
- Conclude from and its converse
- Prove similar triangles from a given scenario / exercise using similarity processes

## 4. Summary of the Learning Activities.

Activity description		Resources	Time
1. Drawing parallel lines t	o one side of triangles	See no. 5 below	30min
2. Measuring & manipulat	ing sides of triangles (ratios)		30min
3. Calculating missing sides & distances of triangles			60min
4. Proving similar triangle	S		60min
5. Enrichment activity for	HG learners		60min

## **5.** Resources needed for these activities.

Activity:

- 1. rulers, pencils, pens, worksheets
- 2. knowledge of cm and mm, measuring skill
- 3. knowledge of ratio and proportion and theorems (LO 11.3.2)
- 4. different exercises on similarity worksheets
- 5. worksheets with right-angles triangles

7. Time needed for each activity. (see no. 4 above)