

WOLLO UNIVERSITY
COLLEGE OF NATURAL SCIENCE
DEPARTMENT OF MATHEMATICS

Transformation Geometry (Math.2122) Course outline.

Course Description :

Transformation Geometry describes the approaching (way of) bringing Algebra and Geometry together . In this course there are four chapters; namely transformations, Translation and Half Turns, Reflections and Affine Transformation

Unit 1 : Transformations , Collineations and Basic Geometrical facts.

- 1.1 Transformations and Collineations
- 1.2 Geometrical Notations and Facts
- 1.3 Properties of Transformations
- 1.4 Group of Transformations
- 1.5 Involutions

Unit 2: Translations and Half Turns

- 2.1 Translations
- 2.2 Half Turns

Unit 3: Reflections

- 3.1 Equation for a Reflection
- 3.2 Properties of Reflection
- 3.3 Glide Reflection
- 3.4 The Product of Two Reflections
- 3.5 Congruence

Unit 4: Affine Transformation

- 4.1 Collineations
- 4.2 Linear Transformations