

MAISA and the REMC Association of Michigan Best Practices in Technology Integration Plan

Title: Geometric Constructions on the Computer

Subject(s): Geometry

Intended Grade Level(s): 10 – 12

Description:

The objective of this set of lessons is to lead the student through various construction techniques needed to bisect angles, lines and arcs, construct a perpendicular from a vertex to a line, construct the center of a circle, transfer an angle, and various other constructions normally done with a straight edge and a compass, but now done on the computer.

Curriculum Benchmarks:

[MI.MAT.II.1.HS.4](#). Draw and construct shapes in two dimensions and analyze and justify the steps of their construction.

Materials/Hardware/Software:

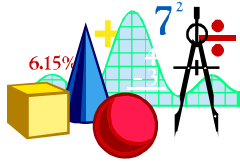
To complete this project students should have access to the following:

- The Paint program for Windows95
- Access to a printer

Activities/Procedures:

Teacher pre-activities:

1. The teacher needs access to a computer which has Paint for Windows95 installed on it.
2. The teacher needs to make hard copies of each lesson so the student can follow the techniques with both written instructions and visual examples.
3. The teacher needs to practice the techniques involved in the various constructions.
4. All lessons should be saved in monochrome to reduce the size of the files.



Geometric Constructions Lessons 1 - 11 are located on the enclosed disk. The Lessons were created in Paint for Windows95. Each lesson is too large to fit on a disk. In order to forward this to you, we had to change the format to JPEG. When you receive this disk, you need to change the format back to bitmap before entering it with HTML. You may change it to monochrome to reduce the size of the files.

(NOTE - The BMP files to complete this lesson are located on the CD in the bstpract/018 directory. Or you can download them to your browser and then convert them to BMP files)

- [Lesson 1](#)
- [Lesson 2](#)
- [Lesson 3](#)
- [Lesson 4](#)
- [Lesson 5](#)
- [Lesson 6](#)
- [Lesson 7](#)
- [Lesson 8](#)
- [Lesson 9](#)
- [Lesson 10](#)
- [Lesson 11](#)

Assessment/Evaluation:

The student will be evaluated based on using correct techniques and correct constructions. The student will be given extra credit for accomplishing the extra credit constructions correctly without step-by-step help from the teacher. All constructions requiring a point of intersection inside a triangle should be retried until the desired results are obtained.

Follow-up Activities:

The student may use the construction techniques they have learned to create their own constructions for advanced problems such as finding the center of a circle, constructing a perpendicular from a point to a line, etc.

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