



# Royal Rangers

Merit Requirements: Silver-Bordered Merit

## DRAFTING MERIT

1. Complete the following preliminary drafting preparations on four sheets of drafting paper or two sheets of copier paper:
  - a. Prepare proper borders on each sheet of paper.
  - b. Place title blocks on each sheet of paper. The block should include the name of the drawing, the scale, and your name. Use single stroke vertical or slant Gothic lettering.
  - c. Produce a rough sketch of your proposed drawing to determine the size of paper needed for the final draft.
2. Make a scale drawing of an object using the prepared drafting paper. Use the orthographic projection technique to show at least three views (using one sheet of drafting paper). All dimension lines must be drawn to represent the final project size. Note the scale size used in the drawing.
3. Complete any TWO of the following using the prepared drafting paper:
  - a. Electrical: Draw a simple schematic of a radio or other electronic circuit. Use standard electronic symbols. The drawing should represent an electrical device that would function if constructed. Include a chart of symbols to identify the major electronic parts and a materials list.
  - b. Architectural: Make a rough sketch of a simple home or room. From that rough sketch, produce a finished scale floor plan. Use conventional symbols to illustrate lights, doors, room openings, electrical features, plumbing, safety devices, etc. Note the architectural scale size used in the drawing.
  - c. CAD system: Prepare and plot either the electrical or architectural drawing you completed above. Format the border and title block on the computer before starting the drawing. Print the drawing and insert it in your workbook.
  - d. Prepare an isometric drawing of an object not used in any of the above requirements. Note the size of the scale represented. Dimensional lines are not needed on this drawing.
  - e. Demonstrate a lettering project by using single stroke vertical or slant Gothic lettering on one of the formatted sheets of paper. Describe in forty words or less why CAD (computer aided design) is used in various industries (architecture, aerospace, electrical, etc.).
4. Describe in writing the job entry requirements for either a drafter, architect, or mechanical engineer. (Most public libraries and some high school career centers have the *Dictionary of Occupational Titles* to help people search for titles and job descriptions. It is also available on the Internet.) In your report, answer the following:
  - a. Is there much competition in these fields?
  - b. List the classes you would need in high school to prepare yourself for the selected profession.
  - c. Explain what a *portfolio* is for this profession and why you need to prepare one as early as you can.