Activity 2.2 – Oblique Sketches

Introduction

Have you ever tried to explain to another person what an object looks like using words and hand gestures? The technique does not work very well, especially if the person does not understand the vocabulary you use. In the engineering world it is often the case that an idea will need to be communicated and explained quickly. Questions, such as “What does the idea look like? How will it work?” need to be answered. In most cases, words and hand gestures alone cannot answer these questions. Sketching ideas is a quick and efficient method that is used in all fields of engineering to get ideas down before they are lost. If the idea turns out to be a possible solution, the sketch will serve as the basis for more advanced drawings and conveying ideas, such as Computer-Aided Design (CAD) solid-modeling.

Pictorial drawings provide realistic views of three-dimensional objects that are easy for non-technical people to understand. Oblique pictorials are perhaps the easiest of the entire three-dimensional sketching techniques you will learn and master.

Equipment

- Engineer’s notebook
- Number 2 pencil
- Various objects

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Procedure

In this activity, you will practice your sketching and technical communication skills by creating ***general oblique sketches*** of objects on graph paper. **A general oblique sketches can have depth at any length. You can do cabinet (half depth), cavalier (full depth), or any other depth you want** Also you can use any angles measure you want for the depth lines although 30, 45, 60 degrees are the most common. I would recommend using 45 degree angles because they are the most widely used and the easiest to do.

Study the figures on the next page.

- One unit of distance on the isometric paper represent one unit of paper on the orthographic paper (scale 1:1). So the height and width should be 1:1 and since it is general oblique the depth can be anything.
- Show the object in a top, front, right side view orientation in your general oblique sketch.
- DO NOT ERASE YOUR POINTS AND CONSTRUCTION LINES.
- Darken in object lines and add tonal shading to the sketch when finished.

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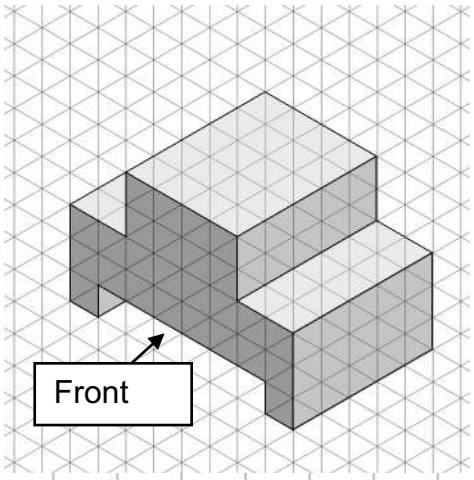
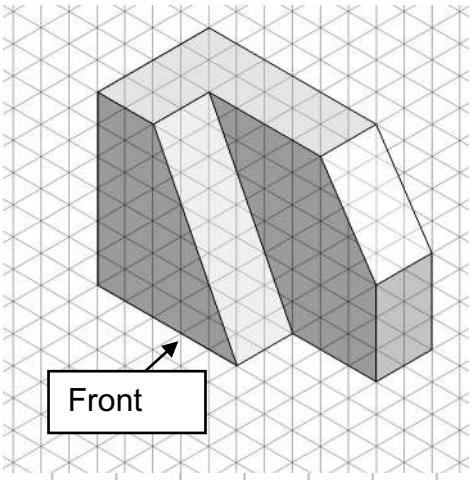

Front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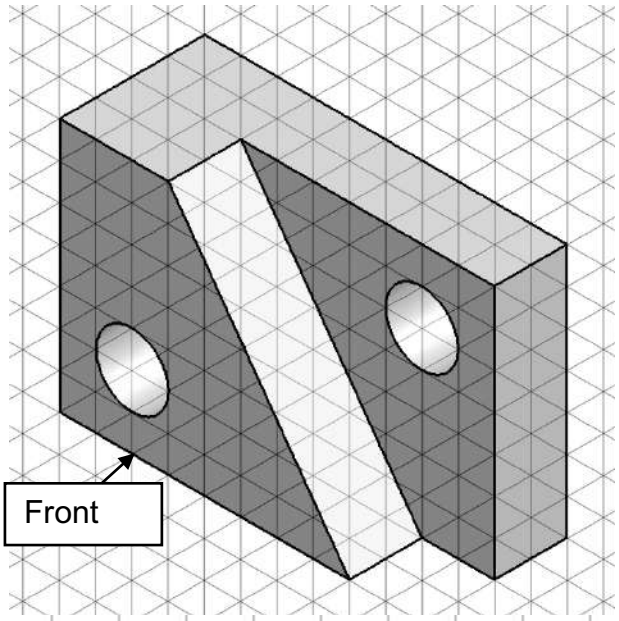
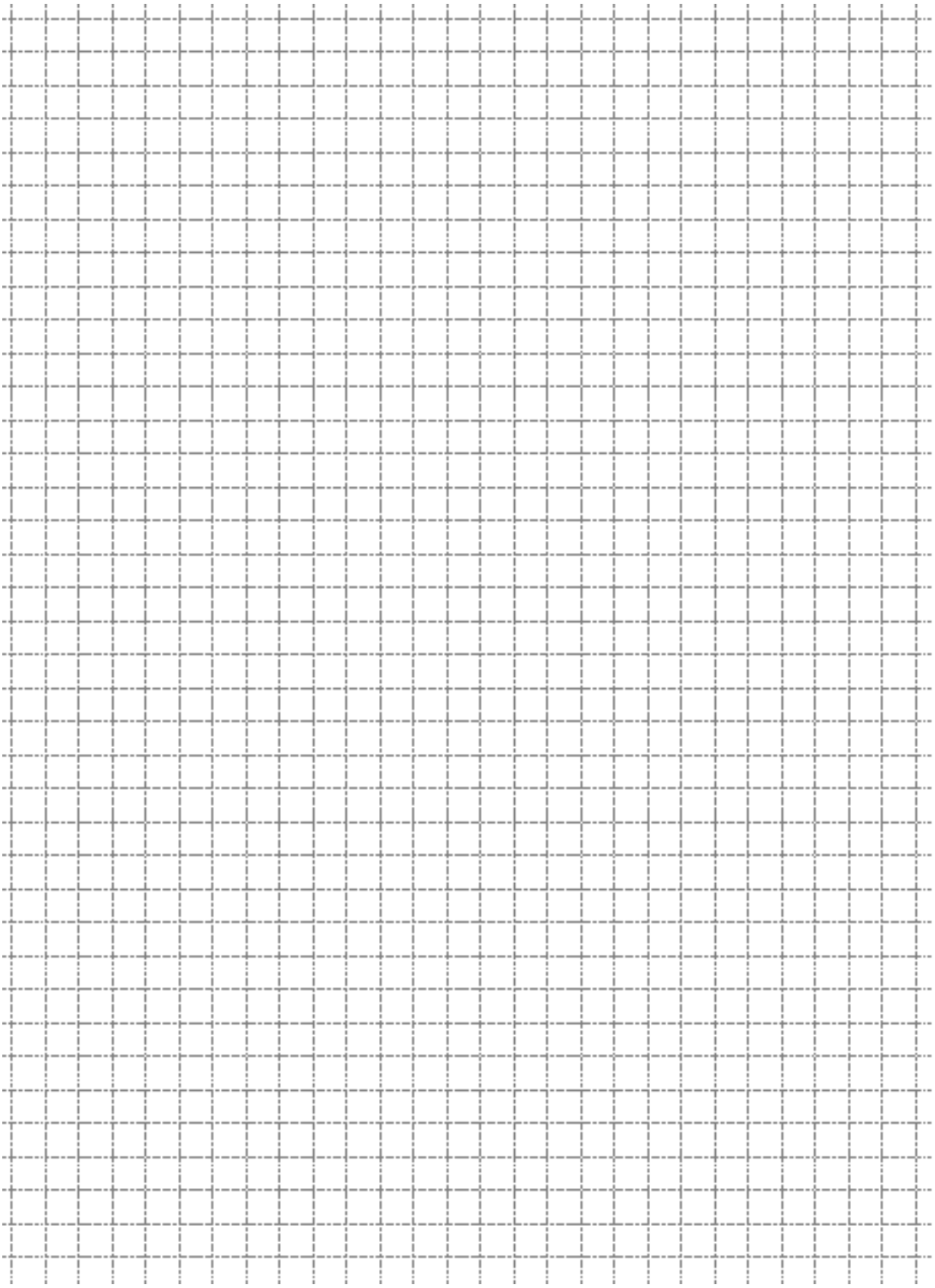

Front

2. Draw a real-life object in oblique general such as a computer tower, TV, monitor, cell phone, stapler, tape dispenser, cabinet, etc.



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Conclusion

1. Why practice sketching shapes, when a Computer-Aided Design (CAD) program can produce much more accurate Geometry?

2. What pencil techniques are used to create the differences between construction lines and object lines?

3. What are the differences between oblique sketches and isometric sketches?

4. What are the differences between oblique cavalier and oblique cabinet sketches? What are the pros for each?

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