

Department of Education
SPTVE
TECHNICAL DRAFTING 8
Signs, Symbols and Data
Quarter 2: Week 1 Module



Ruel M. Banagan

Writer

Erwin Z. Moros *Erwin*

Validator

Dr. Armando N. Romero

Dr. Rosendo E. Sangalang

Joaquin O. Basijan

Quality Assurance Team



Schools Division Office – Muntinlupa City

Student Center for Life Skills Bldg., Centennial Ave., Brgy. Tunasan, Muntinlupa City
(02) 8805-9935 / (02) 8805-9940



EXPECTATIONS

At the end of the module, the learner is expected to:

1. identify the alphabeth of lines in a working drawing;
2. sketch the alphabeth of lines; and
3. appreciate the important role of alphabeth of lines in technical drafting.



PRE-TEST

Directions: Encircle the letter of the correct answer.

1. These are set of conventional line symbols used in orthographic drawings.
A. alphabet of lines
B. crate lines
C. parallel lines
D. perpendicular lines
2. These are lines on the same plane which will not meet no matter how long you extend them.
A. curved lines
B. diagonal lines
C. parallel lines
D. perpendicular lines
3. It is considered as the thickest line in the drawing.
A. center line
B. hidden lines
C. margin
D. section lines
4. A dark thin line consisting short and long dashes used to show the center of rawing.
A. center line
B. hidden lines
C. margin
D. section lines
5. Dark thin lines usually drawn diagonally at 45- degree angle used to show the cut portion of the drawing.
A. center line
B. hidden lines
C. margin
D. section lines
6. Thin and dark line use to show the starting and ending of dimension.
A. crate lines
B. dimension lines
C. extension lines
D. leader Lines
7. These lines consist of short dash lines use to show non visible surfaces or edges of the object.
A. visible lines
B. section lines
C. phantom lines
D. invisible lines
8. These are thin and dark lines use to show the size (span) of an object with a numeric value.
A. crate lines
B. dimension lines
C. extension lines
D. leader Lines
9. A medium line with arrowhead on one end used to show notes or label for size or special information about a feature.
A. crate lines
B. dimension lines
C. extension lines
D. leader Lines
10. Long line followed by two short dashes use to show alternate position of a

moving part.

- A. short-break lines
- B. phantom lines

- C. object lines
- D. cutting-plane line



LOOKING BACK

Directions: Encircle the letter of the correct answer.

1. What is 98% of 450?
A. 439 B. 440 C. 441 D. 442
2. What percent of 20 is 50?
A. 250% B. 300% C. 350% D. 400%
3. 40% of what number is 8?
A. 50 B. 40 C. 30 D. 20
4. What number below is 18% of 27?
A. 150 B. 100 C. 50 D. 20
5. What is 65% of 500?
A. 125 B. 225 C. 325 D. 465
6. What is 64% of 12?
A. 18.75 B. 18.50 C. 18.25 D. 18
7. What is 50 percent of 280?
A. 530% B. 560% C. 590% D. 620%
8. What number below is 34% of 68?
A. 500 B. 600 C. 700 D. 200
9. What is 51% of 90?
A. 45.9 B. 45.7 C. 45.5 D. 45.3
10. What is 70 percent of 35?
A. 20 B. 30 C. 40 D. 50



BRIEF INTRODUCTION

This lesson covers signs, symbols and data that you may encounter in studying technical drafting. These symbols are called *alphabet of lines* which are set of conventional line symbols with different weights, thickness, forms and uses.

ALPHABET OF LINES

1. *Object or visible lines* – thick dark line used to show outline of object, visible edges and surfaces.



2. *Construction lines* – very light and thin line used to construct layout work.



3. *Dimension lines* – thin and dark lines used to show the size (span) of an object with a numeric value. Usually terminates with arrowheads or tick markings.



4. *Hidden lines* – short dash lines used to show non visible surfaces. Usually shows as medium thickness.



5. *Center line* – long and short dash lines. Usually indicates center of holes, circles and arcs. Line is thin and dark.



6. *Extension lines* – thin and dark line used to show the starting and ending of dimension.



7. *Cutting plane line* – extra thick line used to show cutaway views or plane of projection where a section view is taken. Arrow indicates direction of view.



8. *Short and long break lines* – short and long medium line used to show cutaway view of a long section.



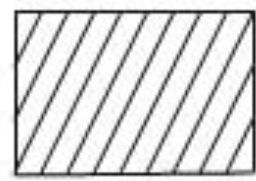
9. *Leader line* – medium line with arrowhead to show notes or label for size or special information about a feature.



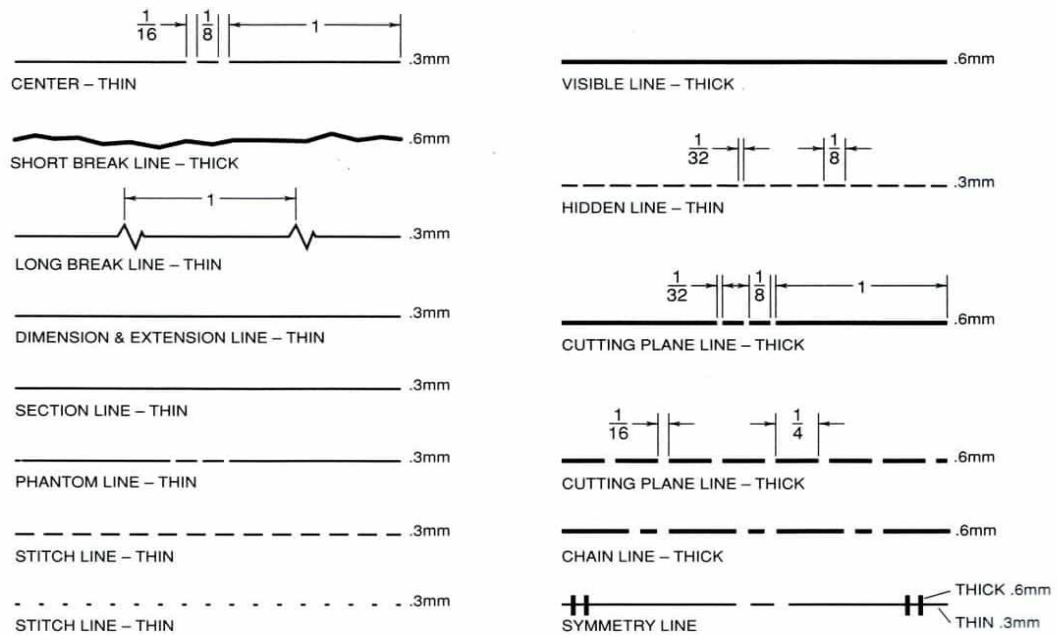
10. *Phantom line* – long line followed by two short dashes used to show alternate position of a moving part.



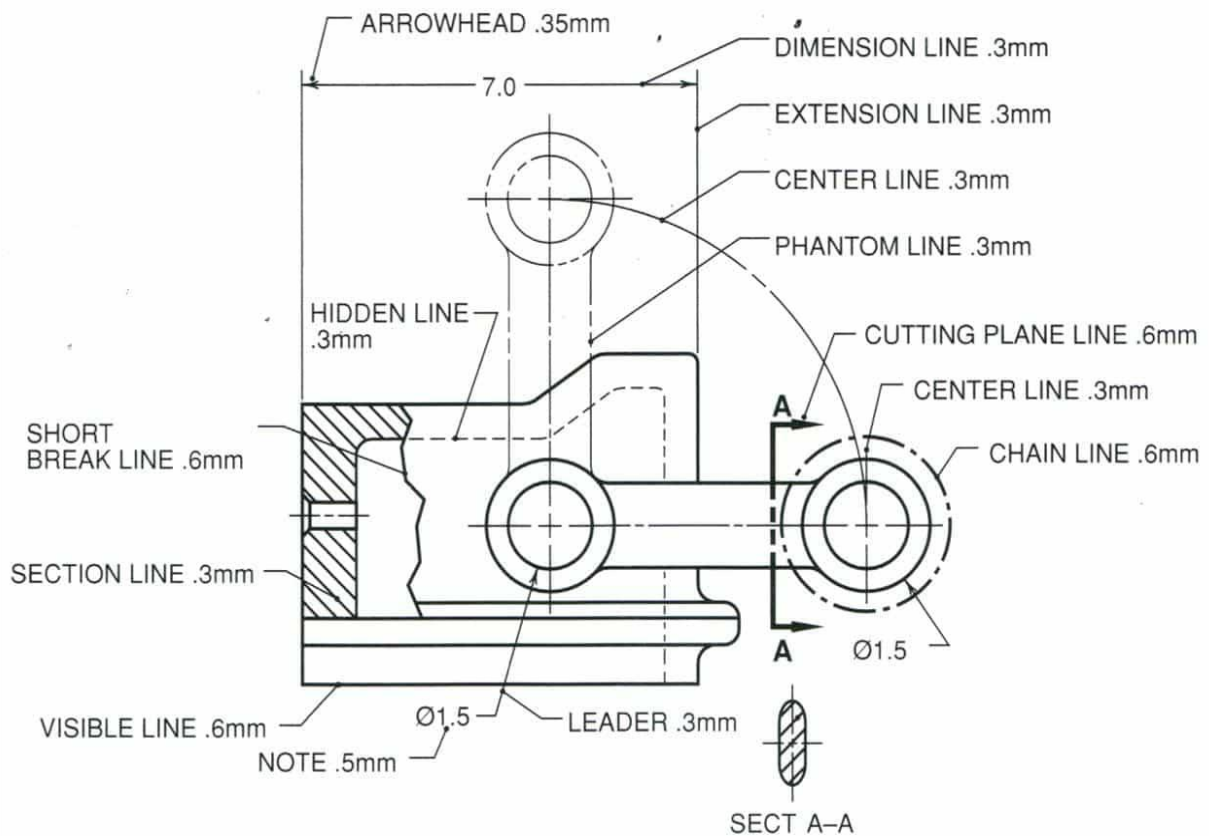
11. *Section line* – medium lines drawn at 45 degrees used to show interior view of solid areas of cutting plane line.



SOME ADDITIONAL INFO GRAPHS of ALPHABET OF LINES



INTERPRETATION OF ALPHABET OF LINES IN THE DRAWING

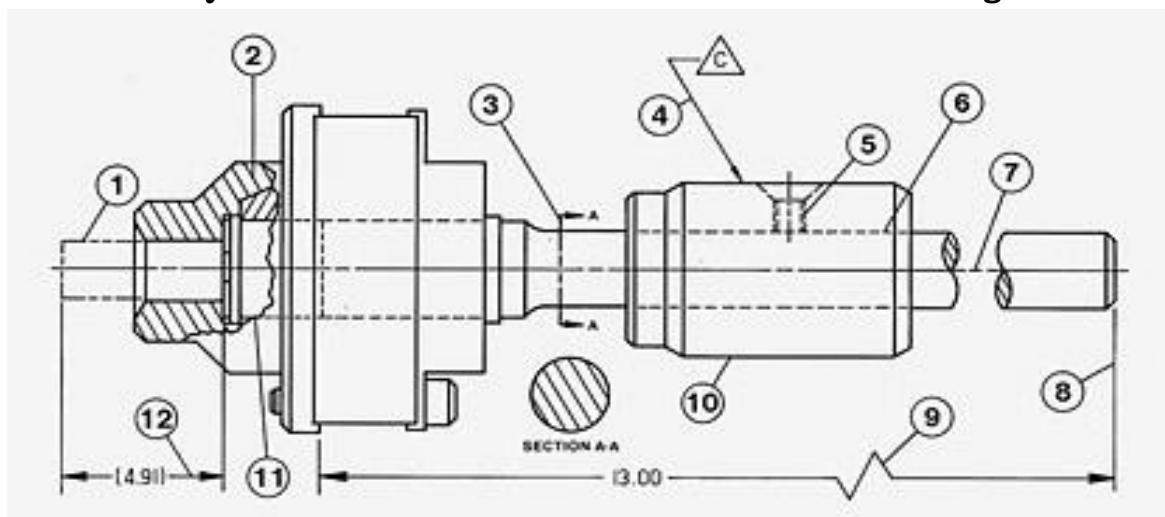




ACTIVITIES

Activity 1: Sketch the alphabet of lines with proper thickness and label. (Free-hand or mechanical).

Activity 2: Directions: Identify the alphabet of lines used in the illustration below. Write your answer on the blank located below the drawing.



- | | | |
|----------|----------|-----------|
| 1. _____ | 5. _____ | 9. _____ |
| 2. _____ | 6. _____ | 10. _____ |
| 3. _____ | 7. _____ | 11. _____ |
| 4. _____ | 8. _____ | 12. _____ |



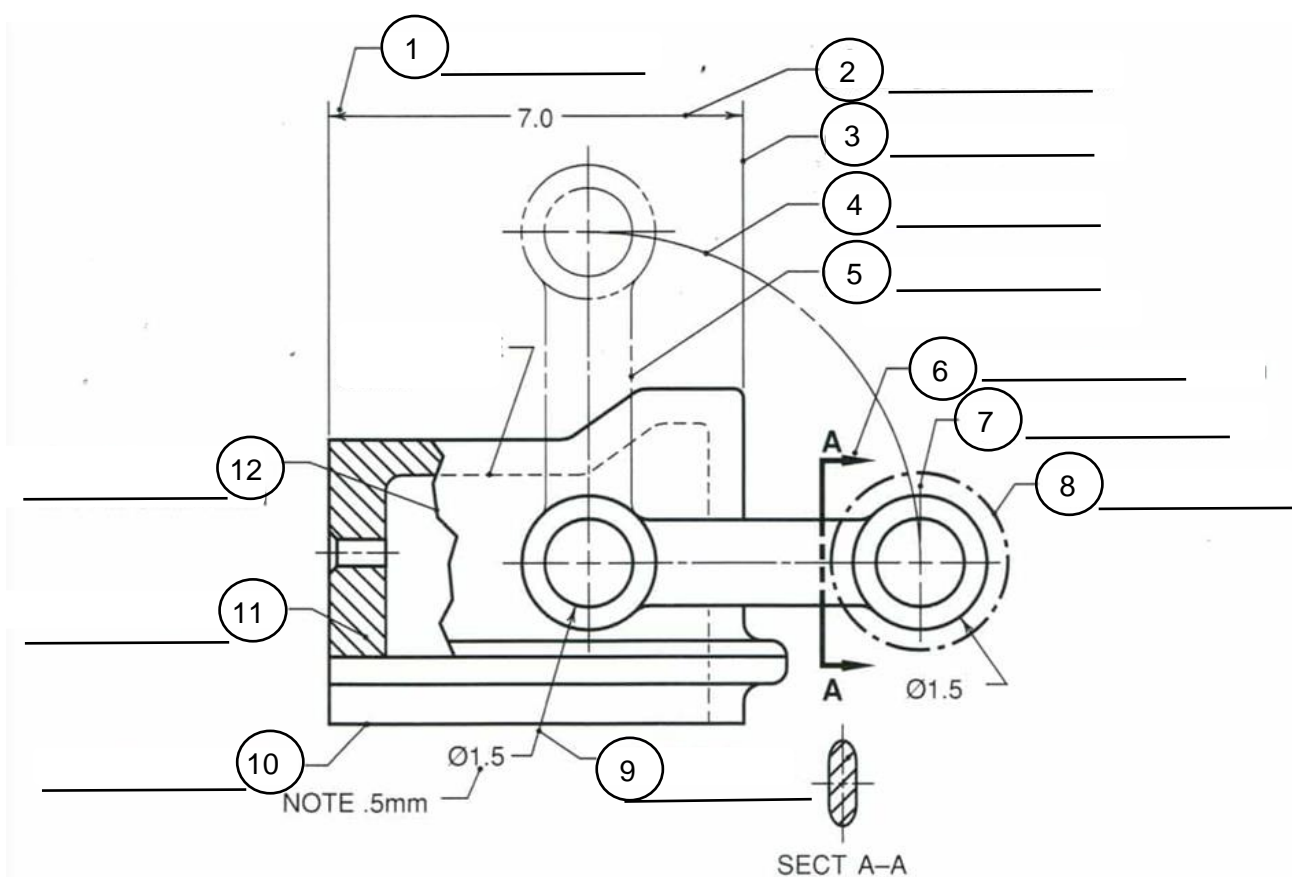
REMEMBER

Alphabet of lines play a very important role in technical drafting. The use of line symbols enables engineers/designers to express features of designed products clearly and accurately. Line features vary not only by width but also by how they are graphically represented in a drawing. Line significance is conveyed by line weight or thickness of the line. Every line is drawn at different thickness and darkness to express contrast as well as importance. Lines that are less important are thin and light. The key to successful drafting is to have a good technical knowledge of these various line characteristics – to understand where and when to apply them in technical drawing.



CHECK YOUR UNDERSTANDING

Directions: Identify the alphabet of lines used for the illustration below. Write your answer on the line after the number.

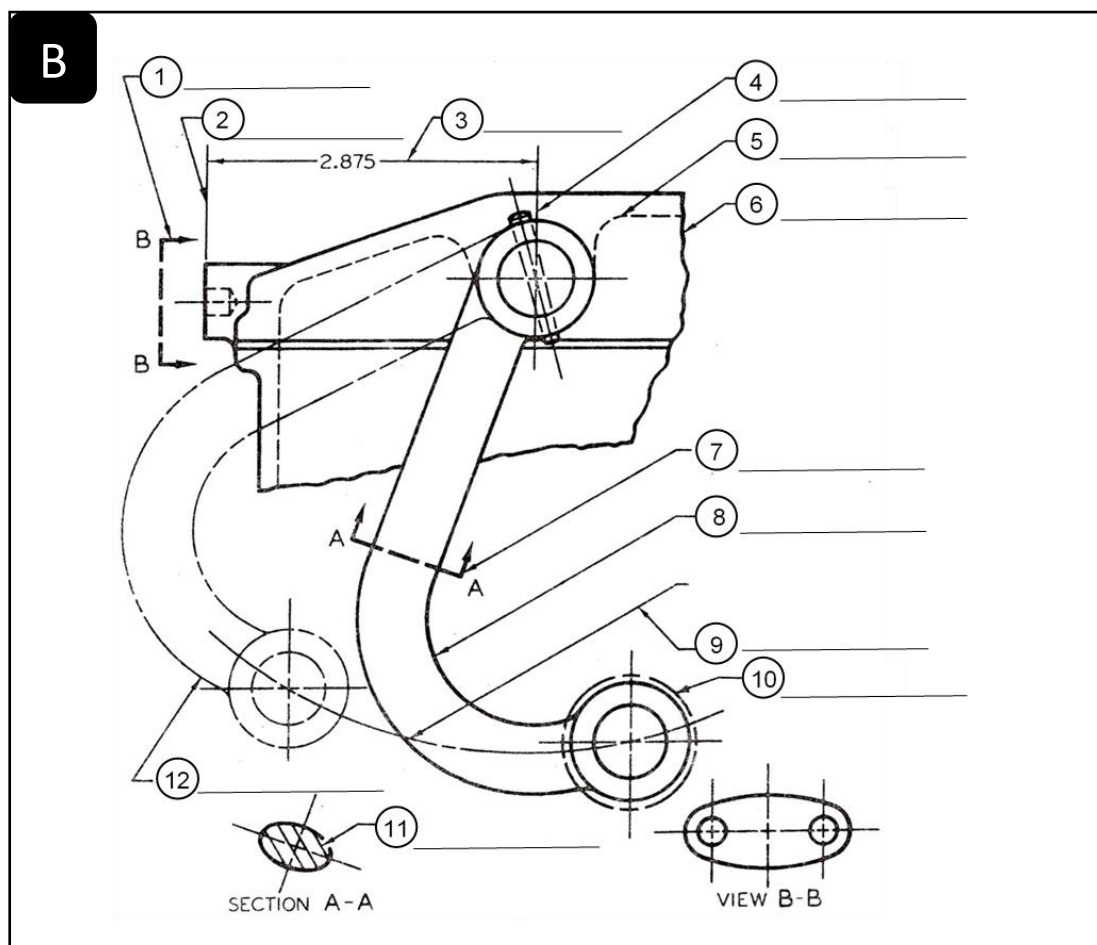
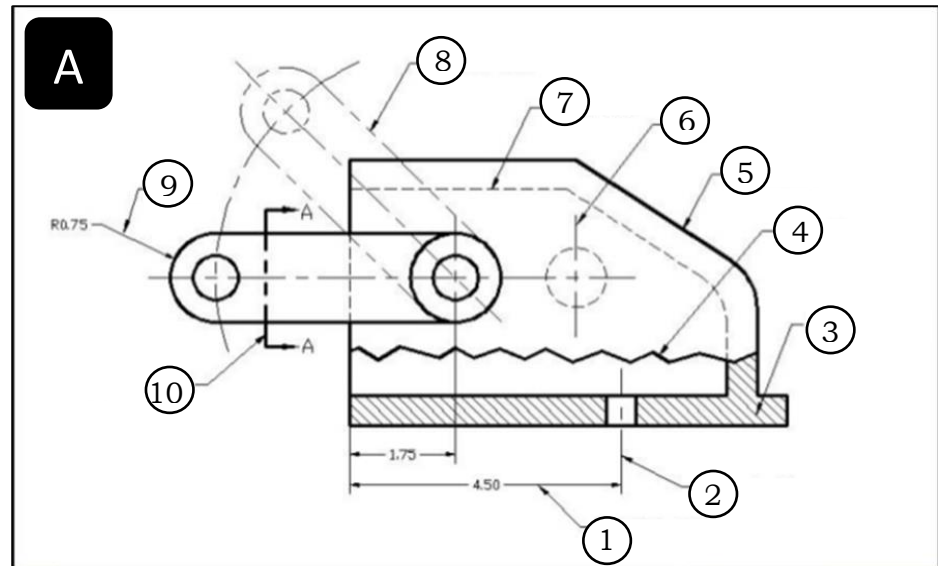




POST TEST

Directions: Identify the alphabet of lines used in the illustrations below. Write the answer on the space provided for each number.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



References:

- Giesecke, Mitchell and Spencer. Technical Drawing; The Macmillan Company: 1999.
- French and Vierck. Engineering Drawing 10th edition MacGraw, Hill Book Company, 1960
- German M. Manaois. Drafting 1 and 2 Phoenix Publishing:1983
- Norman Stirling. Introduction to Technical Drawing Delmar Publishing: 1977
- Competency Based Learning Material, Technical Drafting
- Madsen, Shumaker, Turpin, Stark: Engineering, Drawing and Design
- Downloaded (Internet): Pinterest

<p>Post-test</p> <p>A.</p> <p>1. Dimension line</p> <p>2. Extension line</p> <p>3. Section line</p> <p>4. Break line</p> <p>5. Object or visible line</p> <p>6. Center line</p> <p>7. Hidden line</p> <p>8. Phantom line</p> <p>9. Leader line</p> <p>10. Cutting plane line</p> <p>B.</p> <p>1. Viewing plane line</p> <p>2. Extension line</p> <p>3. Dimension line</p> <p>4. Center line</p> <p>5. Hidden line</p> <p>6. Break line</p> <p>7. Cutting plane line</p> <p>8. Object or visible line</p> <p>9. Leader line</p> <p>10. Chain line</p> <p>11. Section line</p> <p>12. Phantom line</p>	<p>Activity 2</p> <p>1. Phantom line</p> <p>2. Section line</p> <p>3. Cutting plane line</p> <p>4. Leader line</p> <p>5. Hidden line</p> <p>6. Hidden line</p> <p>7. Center line</p> <p>8. Extension line</p> <p>9. Break line (long)</p> <p>10. Visible or object line</p> <p>11. Short break line</p> <p>12. Dimension line</p> <p>Check Your Understanding</p> <p>1. Arrow head</p> <p>2. Dimension line</p> <p>3. Extension line</p> <p>4. Center line</p> <p>5. Phantom line</p> <p>6. Cutting plane line</p> <p>7. Center line</p> <p>8. Chain line</p> <p>9. Leader line</p> <p>10. Object line</p> <p>11. Section line</p> <p>12. Short Break line</p>	<p>Key to Corrections:</p> <p>Pre-test</p> <p>1. A</p> <p>2. C</p> <p>3. C</p> <p>4. A</p> <p>5. D</p> <p>6. C</p> <p>7. D</p> <p>8. B</p> <p>9. D</p> <p>10. B</p> <p>Looking Back</p> <p>1. C</p> <p>2. A</p> <p>3. D</p> <p>4. A</p> <p>5. C</p> <p>6. A</p> <p>7. B</p> <p>8. D</p> <p>9. A</p> <p>10. D</p>
---	--	---