

**Department of Education**  
**SPTVE**  
**TECHNICAL DRAFTING-8**  
**Interpret Technical Drawings & Plans**  
**Quarter 2 - Week 7 Module**



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## EXPECTATIONS

**At the end of the module, the student is expected to:**

1. discuss the first and third angle projection;
2. sketch an orthographic drawing of simple objects; and
3. construct orthographic (*mechanical*) using first-angle projection.



## PRE-TEST

**Directions: Sketch the first-angle projections of the following illustrations. The arrow in the drawing indicates front view.**

<div><div>1</div><div><p>RIGHT-SIDE VIEW</p><p>FRONT VIEW</p><p>TOP VIEW</p></div></div>	<div><div>3</div><div><p>RIGHT-SIDE VIEW</p><p>FRONT VIEW</p><p>TOP VIEW</p></div></div>
<div><div>2</div><div><p>RIGHT-SIDE VIEW</p><p>FRONT VIEW</p><p>TOP VIEW</p></div></div>	<div><div>4</div><div><p>RIGHT-SIDE VIEW</p><p>FRONT VIEW</p><p>TOP VIEW</p></div></div>



## LOOKING BACK

### Blueprint Reading

**Directions:** Match the corners of the object represented by numbers drawn in isometric below with their corresponding corners (represented by capital letters) found in the three views by writing the letter in the blank opposite its corresponding number.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

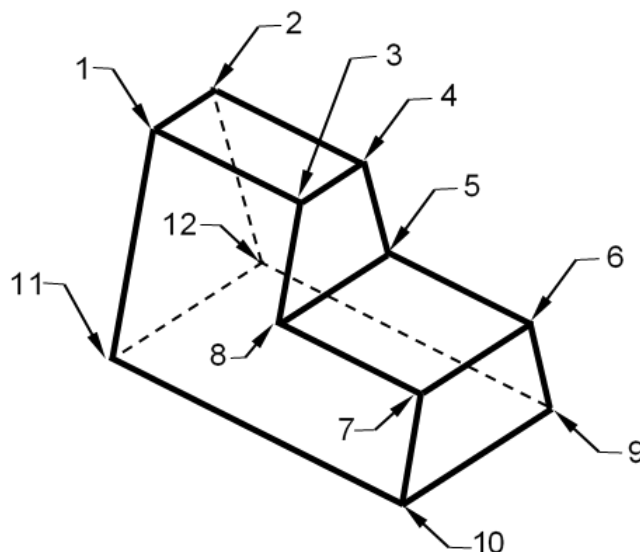
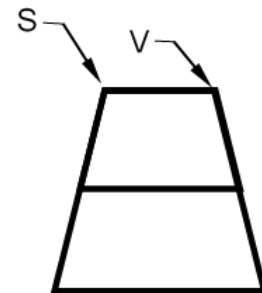
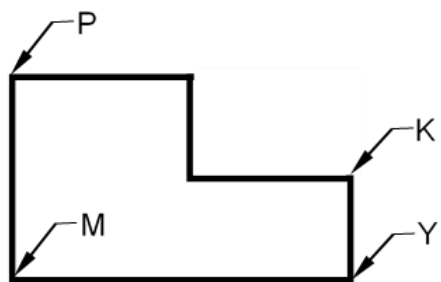
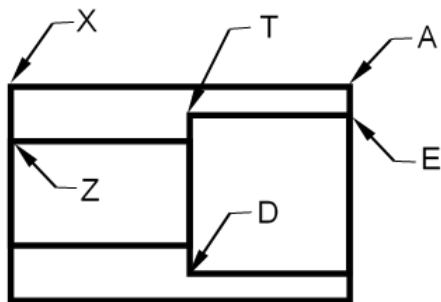
8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_



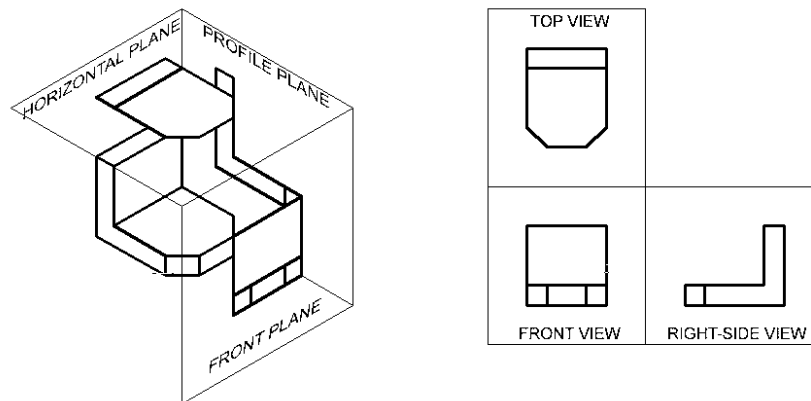


## BRIEF INTRODUCTION

This lesson is designed to familiarize you in first-angle projection drawings. Unlike third-angle projection, you usually constructed the three common views: *top*, *front*, and **right-side view**. In first-angle projection, there are instances that the *front*, *top* and **left-side view** are shown depending on the position of pictorial view. It also includes activity on sketching and blue-print reading in order to help you more in understanding both first and third angle projection. Happy learning.

## FIRST AND THIRD ANGLE PROJECTION.

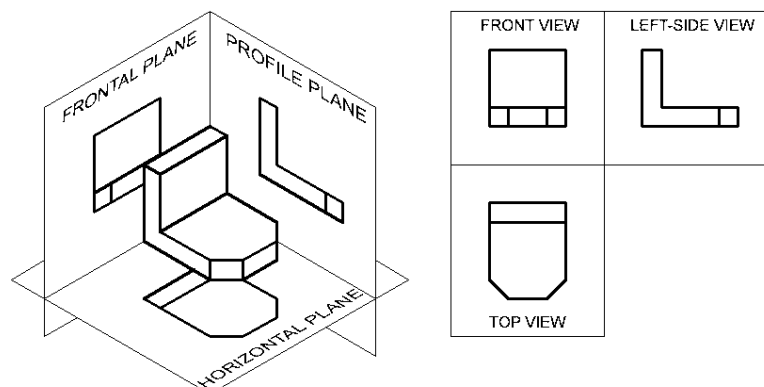
In orthographic projection, drawings are referred to as “*first-angle*” or “*third-angle*” projections.



### VIEWS ARE PROJECTED FORWARD IN THIRD-ANGLE PROJECTION

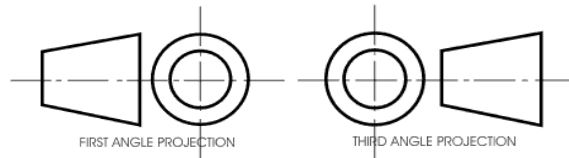
Third-angle projection is commonly used in the United States, Canada and Asia. Most European countries use first-angle projection. The difference between the two is how the object is projected and the position of the views on the drawing.

In **third-angle projection**, the projection plane is considered to be between the viewer and the object, and the views are projected forward to that plane. The top view appears above the front view, the right-side view is to the right of the front view, the left view to the left of the front view, and so on.



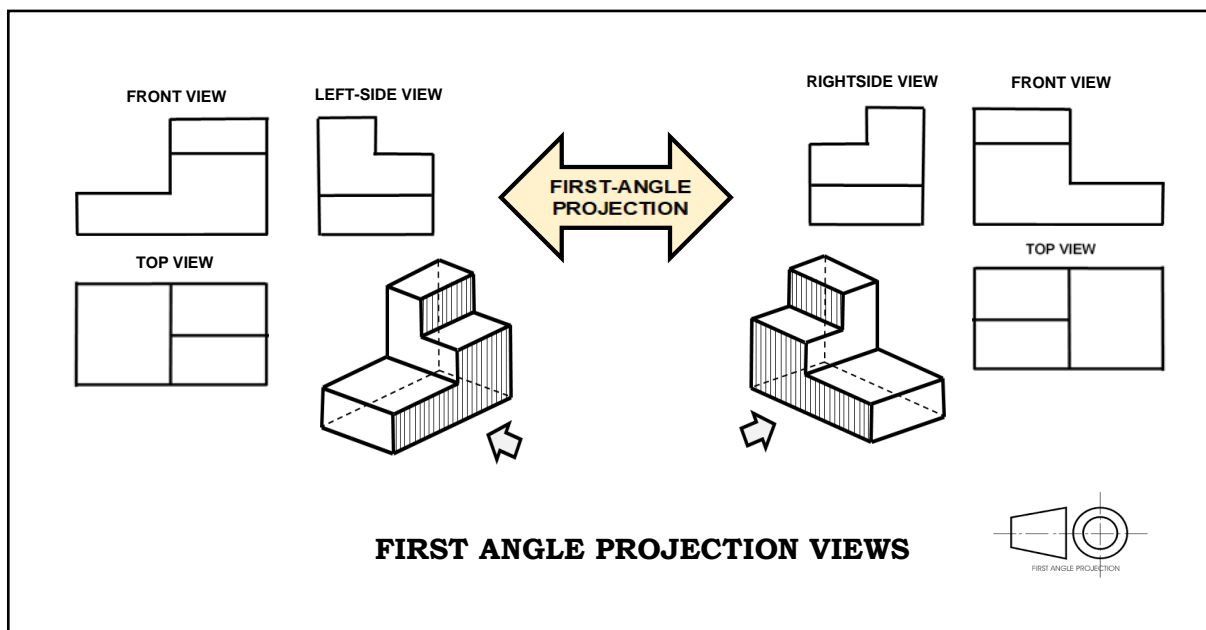
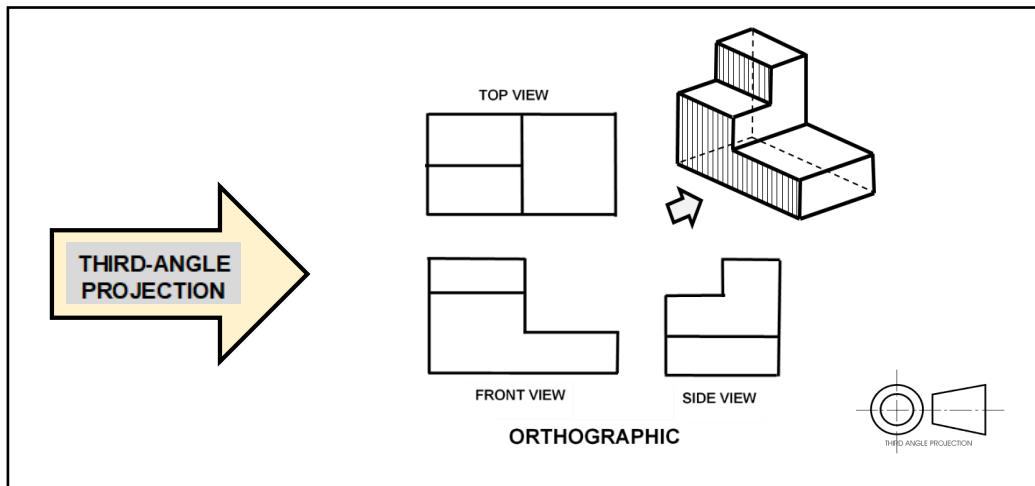
## VIEWS ARE PROJECTED BACKWARD IN FIRST-ANGLE PROJECTION

In **first-angle projection**, the projection plane is on the far side of the object. The views of the object are projected to the rear and onto the projection plane instead of being projected forward. The individual views are the same as those obtained in the third-angle projection.



## SYMBOL FOR FIRST-ANGLE AND THIRD-ANGLE PROJECTION

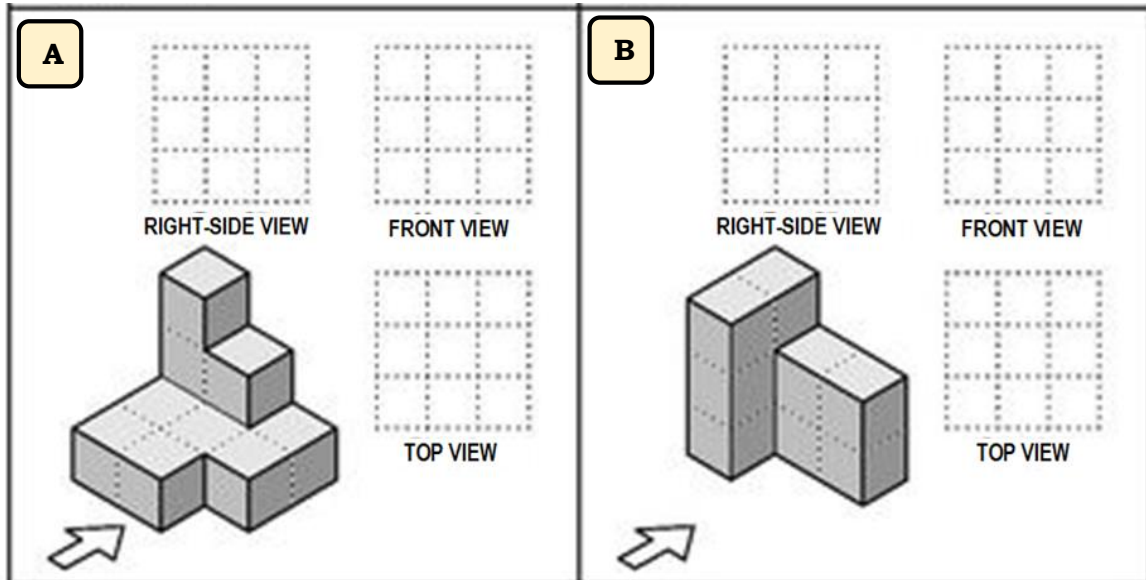
### VIEWS ARRANGEMENT





## ACTIVITIES

**Directions:** Sketch the first-angle projections of the following illustrations. The arrow in the drawing indicates front view.



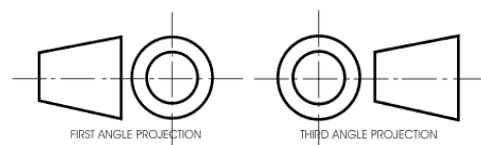
## REMEMBER

### FIRST AND THIRD ANGLE PROJECTION.

Third-angle projection is commonly used in the United States, Canada and Asia. Most European countries use first-angle projection. The difference between the two is how the object is projected and the position of the views on the drawing.

In **third-angle projection**, the projection plane is considered to be between the viewer and the object, and the views are projected forward to that plane. The top view appears above the front view, the right-side view is to the right of the front view, the left view to the left of the front view, and so on.

In **first-angle projection**, the projection plane is on the far side of the object. The views of the object are projected to the rear and onto the projection plane instead of being projected forward. The individual views are the same as those obtained in the third-angle projection.



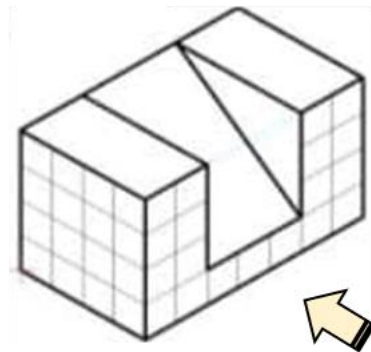
SYMBOL FOR FIRST-ANGLE AND THIRD-ANGLE PROJECTION



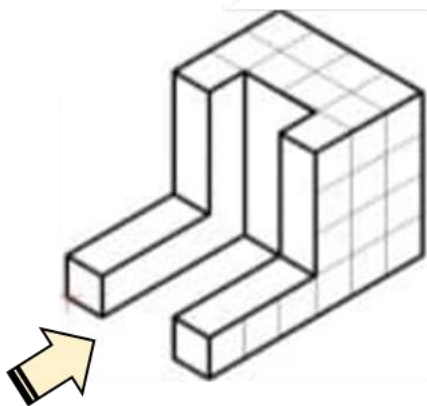
## CHECK YOUR UNDERSTANDING

**Directions:** Sketch the first-angle projections of the following illustrations. The arrow in the drawing indicates front view.

A



B

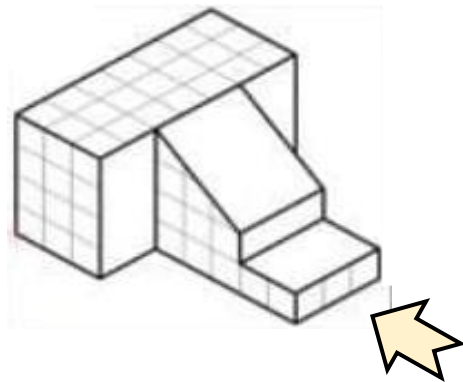




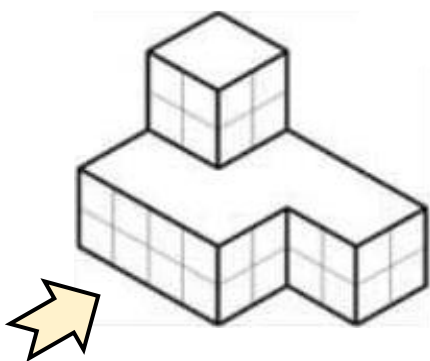
## POST TEST

**Direction: Construct the orthographic views (mechanical drawing) of the isometric below on Oslo paper. Do not copy the isometric, just the orthographic.**

**A**

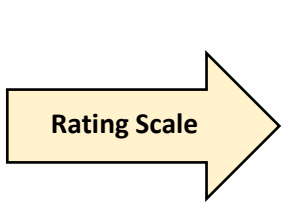


**B**





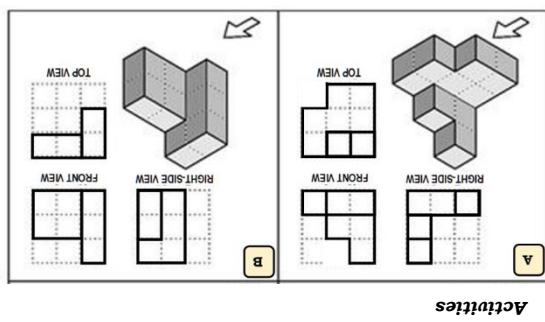
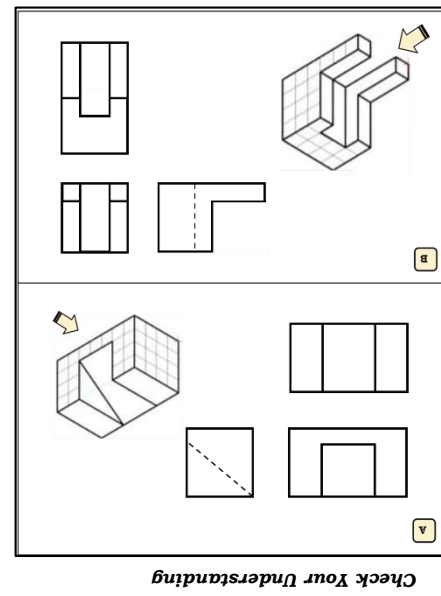
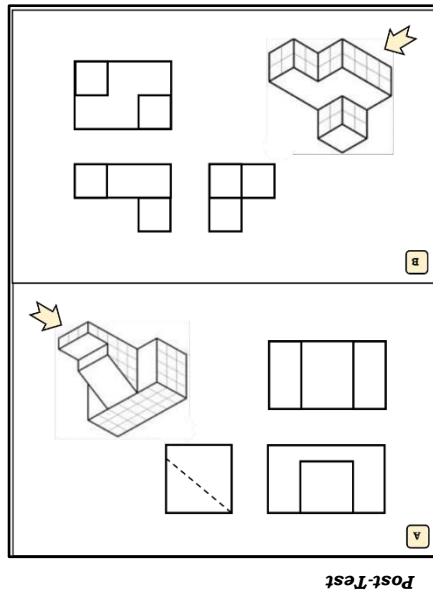
<b>SCORING RUBRICS FOR LEARNER'S OUTPUT</b>			
	<b>10</b>	<b>9</b>	<b>8</b>
<b>Accuracy</b>	The output is accurately done	Two to five errors are observed on the output	Six to ten errors are observed on the output
	<b>2</b>	<b>1.6</b>	<b>1.2</b>
<b>Speed</b>	The output is done 5 minutes before the time	The output is done on time	The output is done after the allotted time
	<b>5</b>	<b>4</b>	<b>3</b>
<b>Neatness</b>	Has no erasure	Has two to three erasures	Has four or more erasures
	<b>3</b>	<b>2.4</b>	<b>2</b>
<b>Notes &amp; Lettering</b>	All pieces of info. are completely indicated and legibly printed.	All pieces of info. are legibly printed but some are missing.	All pieces of info. are legibly printed but some are missing and misspelled.

	<b>Points Earned</b>	<b>Numerical Equivalent</b>	<b>Description</b>
	18 – 20	91 - 100	Excellent
	15 - 17	86 - 90	Very Good
	10 - 14	81 - 85	Good
	Below 10 points	75 - 80	Needs Improvement

## **References:**

- Giesecke, Mitchell and Spencer. Technical Drawing; The Macmillan Company: 1999.
- French and Vierck. Engineering Drawing 10<sup>th</sup> 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
- Internet: Pinterest

# **Key to Correction**



**LOOKING BACK**

1. P  
2. Z  
3. S  
4. V  
5. T  
6. E  
7. D  
8. K  
9. A  
10. Y  
11. M  
12. X

