

**Department of Education**  
**SPTVE**  
**TECHNICAL DRAFTING-8**  
**Interpret Technical Drawings & Plans**  
**Quarter 2 - Week 6 Module**



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## EXPECTATIONS

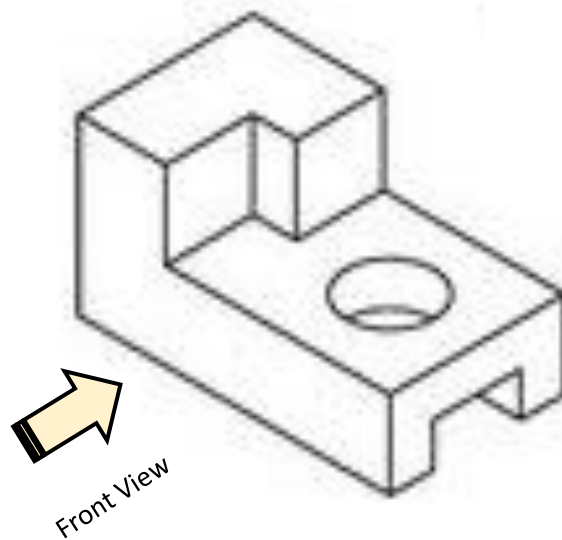
**At the end of the module, the student is expected to:**

1. read and interpret simple working drawings;
2. sketch orthographic drawings of simple objects; and
3. construct orthographic (*mechanical*) of objects with round shapes using third-angle projection.



## PRE-TEST

**Directions: Sketch the orthographic views of the illustration below. Disregard its dimensions.**





## LOOKING BACK

### Blueprint Reading:

Directions: Supply the missing views of the orthographic drawings below.

<p>1</p>	<p>6</p>
<p>2</p>	<p>7</p>
<p>3</p>	<p>8</p>
<p>4</p>	<p>9</p>
<p>5</p>	<p>10</p>



## BRIEF INTRODUCTION

This lesson is designed to familiarize you in orthographic drawing of objects with circular and/or curved parts. In order to do circular or or curved parts, use compass or circle template. Remember the parts of a circle, such as diameter ( $\phi$ ), radius (R), and center (O).

*Note: In drawing objects with circular o curved parts, it is necessary to show the center lines (center of a circle) using crossed lines as shown in the 2<sup>nd</sup> and 3<sup>rd</sup> figure below.*

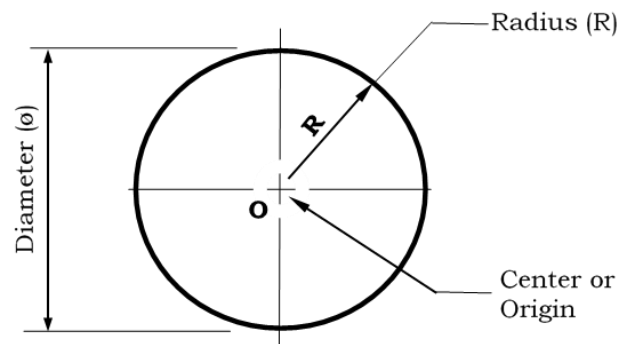
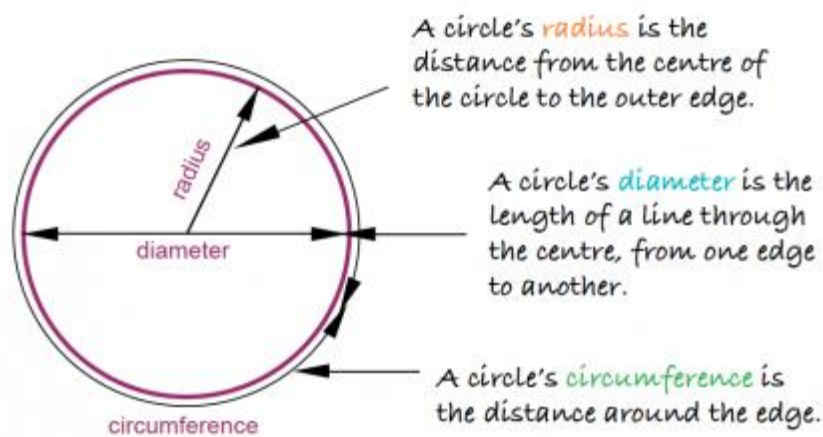


Figure 1

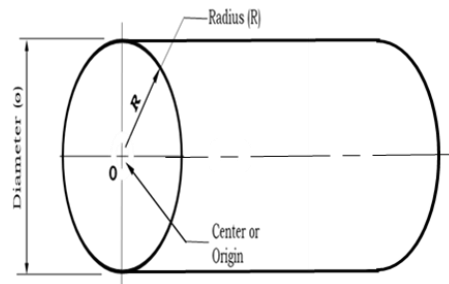


Figure 2



## ACTIVITIES

**Directions: Copy the orthographic views only of the isometric below with proper details.**

Plate No.: \_\_\_\_\_

Year & Section: \_\_\_\_\_

Teacher: \_\_\_\_\_

MECHANICAL DRAWING

Title \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**ISOMETRIC**

FRONT

**ORTHOGRAPHIC**

**TOP VIEW**

**FRONT VIEW**

**SIDE VIEW**

Note: All measurements are in millimeters (mm).



## **REMEMBER**

### **To construct orthographic projection drawings:**

1. Use the right instrument for your drawings.
2. Apply alphabet of lines, especially for your final output.
3. Erase unnecessary lines and label your drawing.
4. Follow the principles of orthographic projection.

### **Principles of Orthographic Projection**

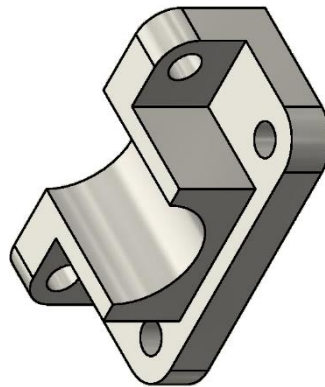
1. The top view is directly above the front view.
2. The side views are horizontally in line with the front view.
3. The width of the top view is equal to the width of the side views
4. When a line or edge is viewed perpendicularly to a plane of projection, it appears as a point.
5. A line or edge parallel to the plane of projection will also appear as a line or edge in its exact or true length.
6. A line or edge inclined to the plane of projection will appear shorter or foreshortened.
7. A surface perpendicular to the projection plane will appear as a line or edge equal in length to the nearest edge of the surface, which in this case is either its length or its width, depending on its position.
8. A surface parallel to the plane of projection will be shown in its exact or true shape and size.
9. A surface inclined to the plane of projection will also appear as a surface but smaller in size and shape.
10. No line or edge of the object can be projected longer than its true length.



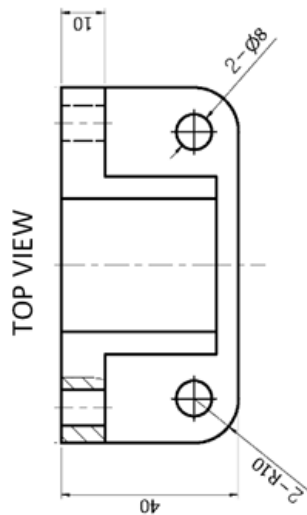
## CHECK YOUR UNDERSTANDING

**Directions: Construct the orthographic views only of the given isometric with complete details (label & dimensions).**

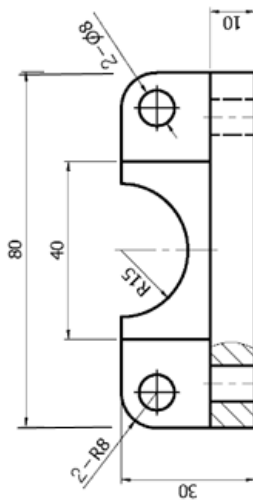
*Note: All measurements are in millimeters (mm).*



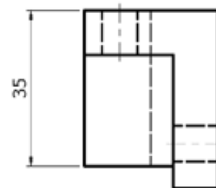
ISOMETRIC



TOP VIEW



FRONT VIEW



SIDE VIEW

ORTHOGRAPHIC

Plate No.: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Year & Section: \_\_\_\_\_

Teacher: \_\_\_\_\_ Title: \_\_\_\_\_



## POST TEST

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

Plate No.: \_\_\_\_\_

*Note: All measurements are in millimeters (mm).*

**TOP VIEW**

**FRONT VIEW**

**ISOMETRIC**

**SIDE VIEW**

**ORTHOGRAPHIC**

Year & Section: \_\_\_\_\_

Teacher: \_\_\_\_\_

ORTHOGRAPHIC DRAWING

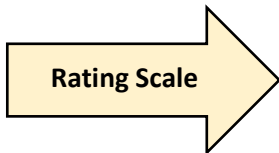
Name: \_\_\_\_\_

Date: \_\_\_\_\_

Title \_\_\_\_\_



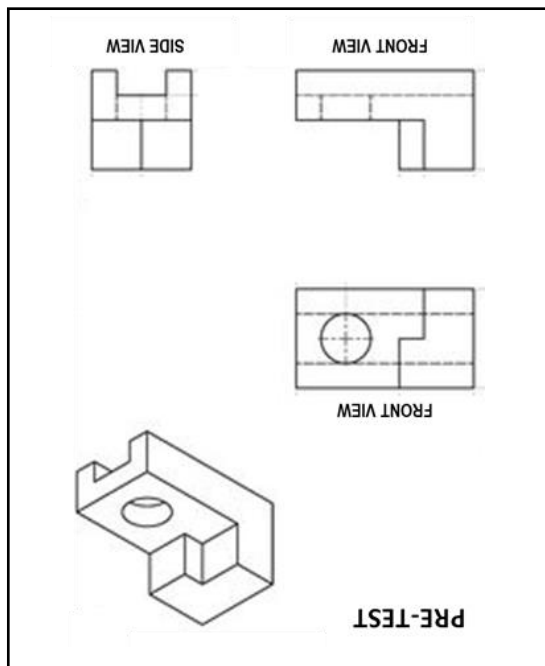
SCORING RUBRICS FOR LEARNER'S OUTPUT			
	10	9	8
<b>Accuracy</b>	The output is accurately done	Two to five errors are observed on the output	Six to ten errors are observed on the output
	2	1.6	1.2
<b>Speed</b>	The output is done 5 minutes before the time	The output is done on time	The output is done after the allotted time
	5	4	3
<b>Neatness</b>	Has no erasure	Has two to three erasures	Has four or more erasures
	3	2.4	2
<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.

	Points Earned	Numerical Equivalent	Description
	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 CORRECTIONS



### Looking Back

