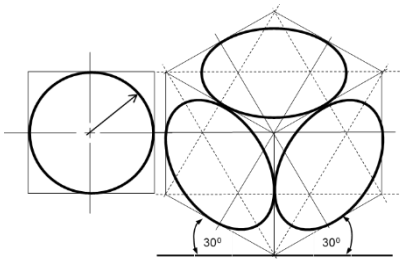
**SPECIAL PROGRAM IN TECHNICAL VOCATIONAL EDUCATION (SPTVE)**
**TECHNICAL DRAFTING – GRADE 8**
**Q3 – W4**

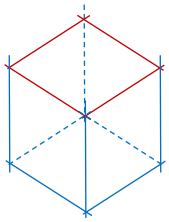
I. Topic: Isometric Drawing

II. Objectives:
1. interpret blueprint reading;
2. construct isometric circles and objects with curves and/or circular surfaces; and
3. value the importance of isometric drawing in making an illustration of the proposed project.

III. Introduction

Constructing an isometric drawing is interesting. Feel free to learn how to construct isometric circles.

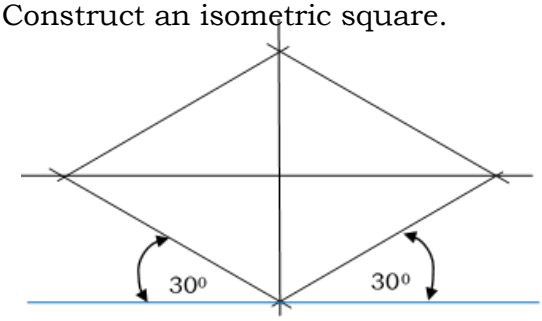


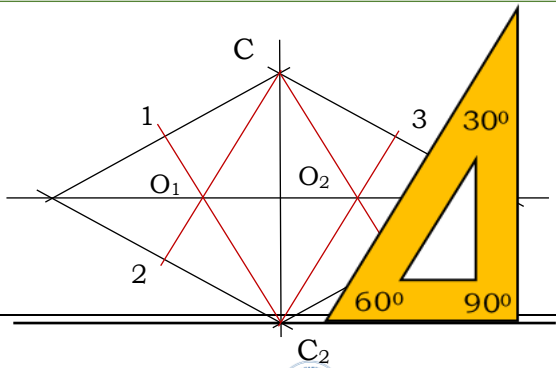
CUBE

**To construct an isometric circle, follow these steps:**

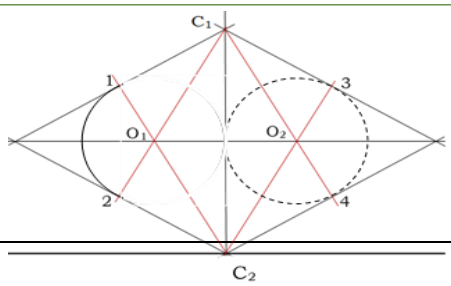
1. Construct an isometric square.




2. Mark Point $C_1$ on top of a square and Point $C_2$ at the bottom. Use the $60^0$ angles of your triangles to construct diagonal lines on the left & right of the square, as shown in the figure. Mark $O_1$ and $O_2$ at the intersection of the diagonal lines. Also, the numbers of the intersections of diagonal lines to the side of the square as shown in the figure.




3. At $O_1$ as the center, draw an arc from Point 1 to Point 2. Do the same in Point 3 to Point 4 with $O_2$ as the



4. At $C_1$ as the center, draw an arc from Point 2 to Point 4. Do the same process in Point 1 to Point 3 as $C_2$ as the center. An ellipse circle will be shown. See Figures 1 and 2. *Note: You may use an ellipse template for small arcs/circles.*

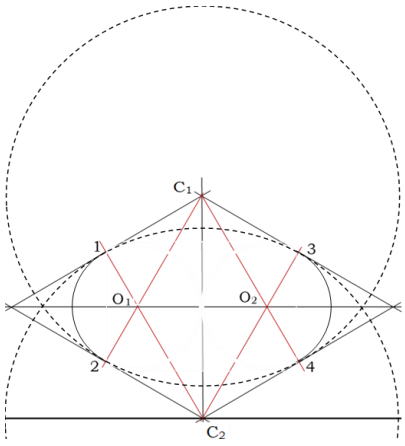



Figure 1

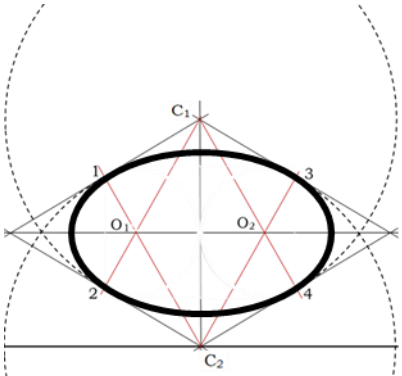
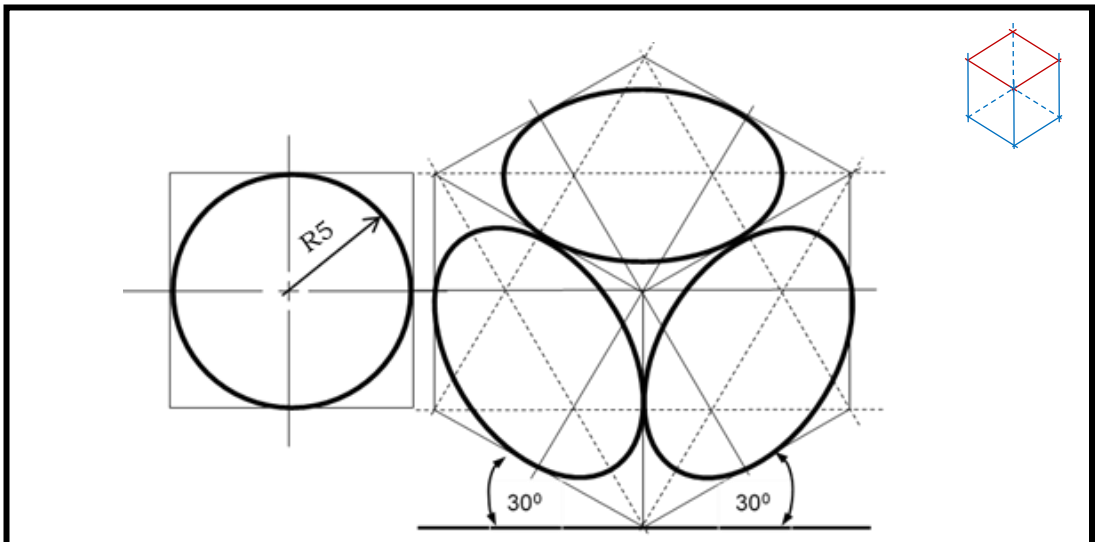



Figure 2

IV. Activities:

Activity 1 – Re-draw the isometric circles below on Oslo paper with a radius **(R)** of 5 centimeters.

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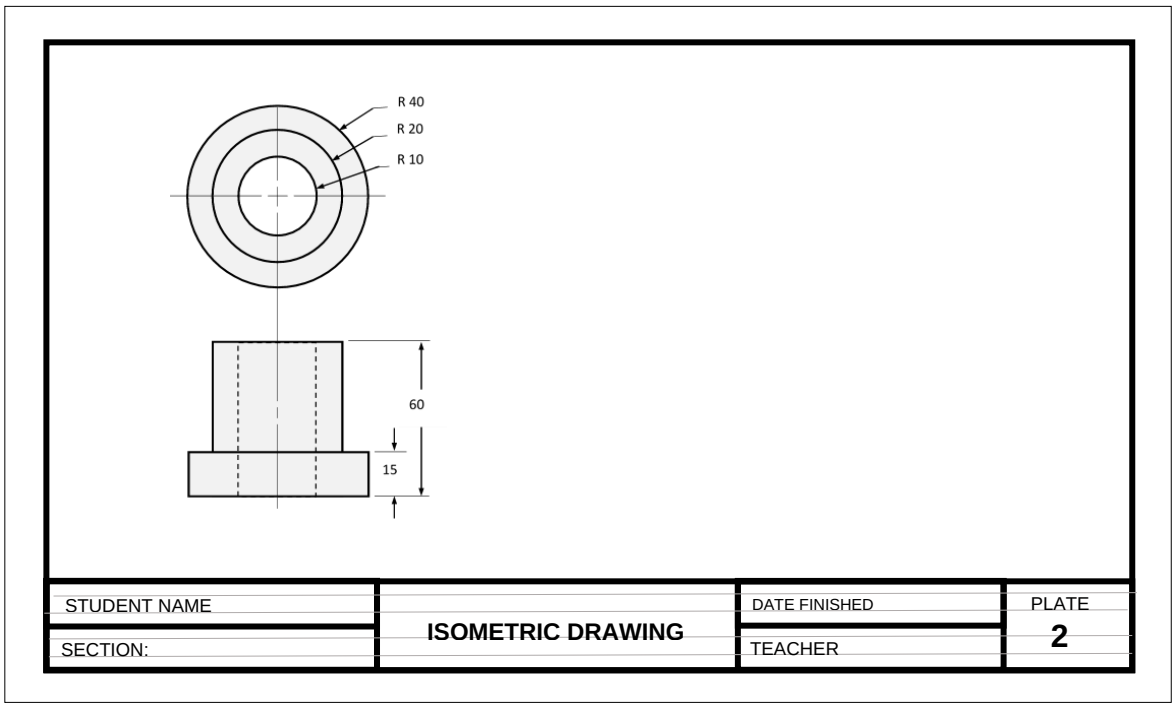
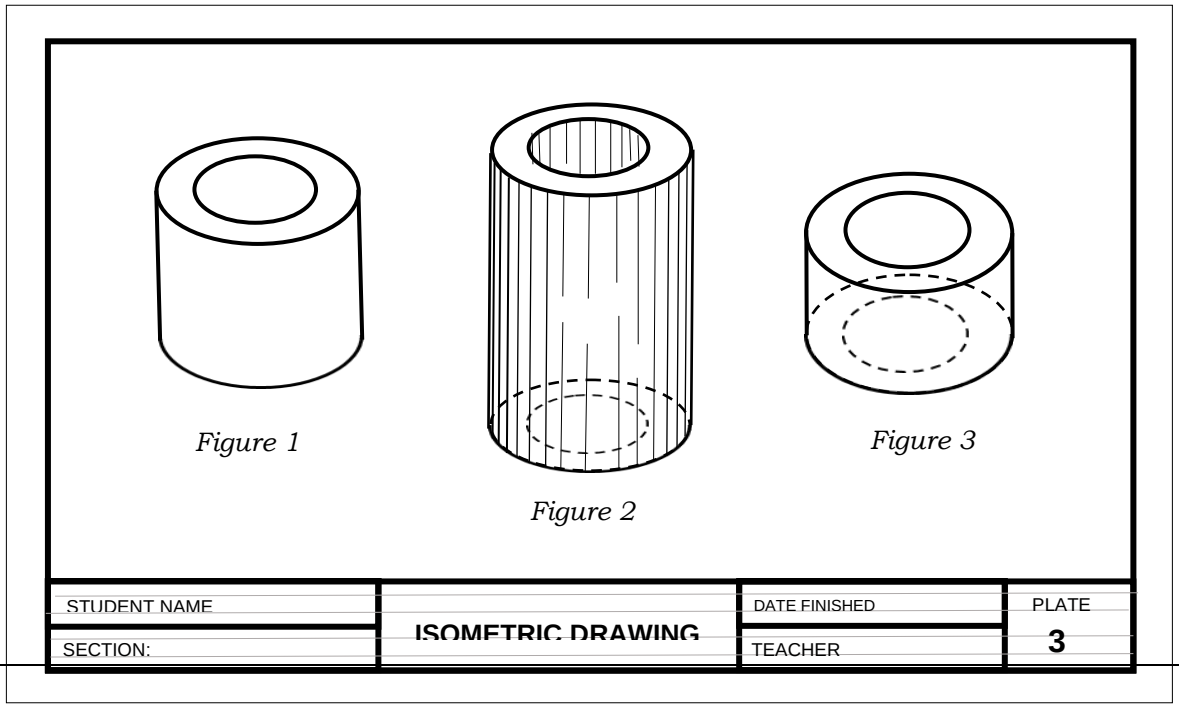
Activity 2 – Copy the orthographic, then draw its isometric with given measurement in millimeters.

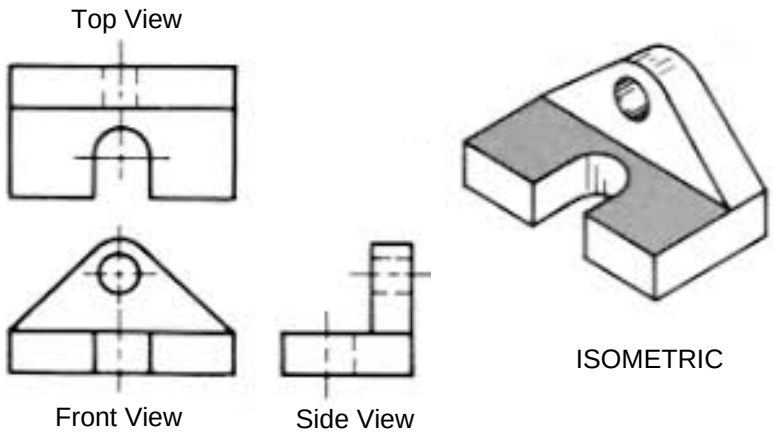



Activity 3 – Reproduce the illustrations below on Oslo. You may use an ellipse template when needed.



V. Assessment:

**Direction:** Reproduce the illustrations below on Oslo paper. Just estimate the dimension.




VI. Reflection:

In your own opinion,

1. Explain the relevance of isometric drawing to orthographic drawing. *(5 points)*

2. How important is the isometric drawing in making an illustration of the proposed project? *(5 points).*

References:

- *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*

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