

# Models and References Exercise

## Metric Measure

### Level 2 Module 6

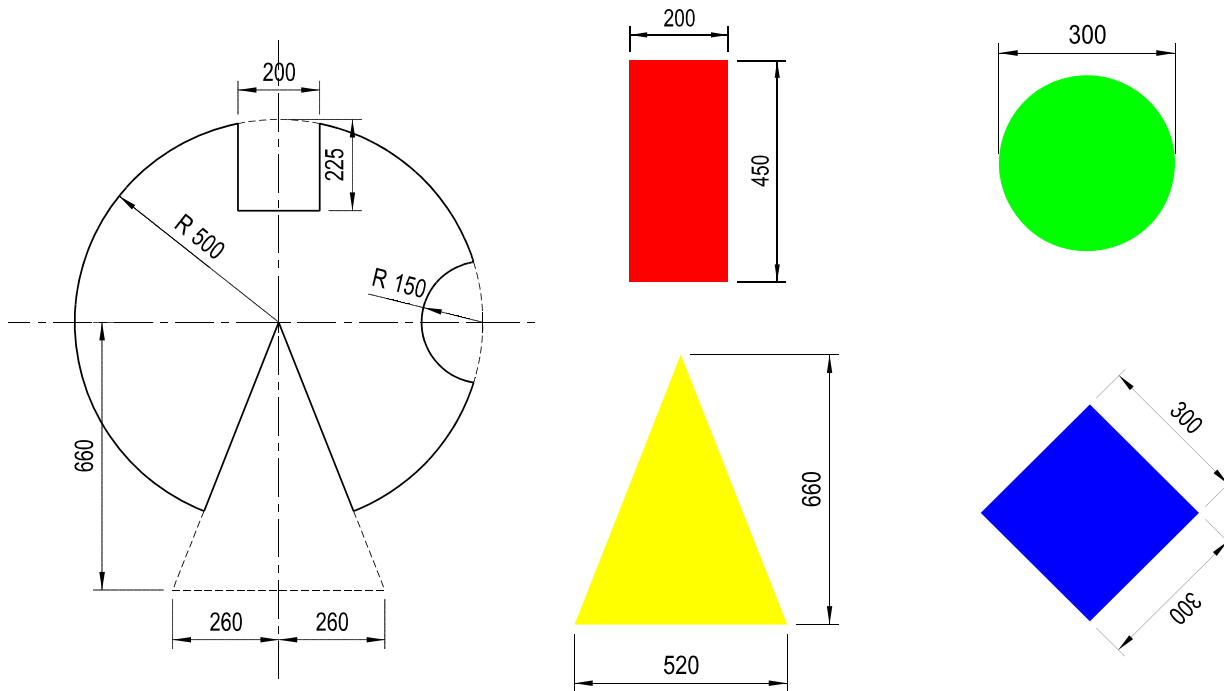


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This exercise is best done after completing Module 6 of our MicroStation 2D Level 2 Training Manual.

This is a simple exercise designed to reinforce the use of references, models, and saved views in design files. It assumes that you have read and understood the reference and model information in Module 6 and know how to make and attach references. Do the following:



**Step 1** Open a new *Design file* called: **RefEx**.

Set *Working Units* to *millimeters* so that you can work in millimeter units (see Level 1, end of Module6).

Make any other settings you think necessary.

Open a new *Design model* named: **Plate**.

Draw the *circular plate* shown above to the dimensions shown.

**Step 2** In the *RefEx* file, open a new *Design model* named: **Red Rectangle**.

Draw the *rectangle* shown above with the *Block* tool. Use a **red** fill color.

**Step 3** In the *RefEx* file, open a new *Design model* named: **Green Circle**.

Draw a *circle* with a radius of 150 mm. Use a **green** fill color.

- Step 4** Open a new *Design file* called: **Triangle**.  
Set *Working Units* to *millimeters*.  
Open a new *Design model* called: **Yellow Triangle**.  
Draw the *triangle* shown above. Use a **yellow** fill color.  
Zoom-in to the triangle and make a *Saved View*. Name it “Just the Triangle”.
- Step 5** Open a new *Design file* called: **Diamond**.  
Set *Working Units* to *millimeters*.  
Do *not* open a new model - draw in the **Default** model.  
Draw the *diamond* shape shown above. Use a blue fill color.  
Do *not* make a *Saved View*.

With the files, models, and elements in place you can now assemble the pieces.

- Step 1** Open the first design file “RefEx”.  
Open a new **Sheet model** named: **Assembly**. Turn off the *Display Sheet Layout* option.

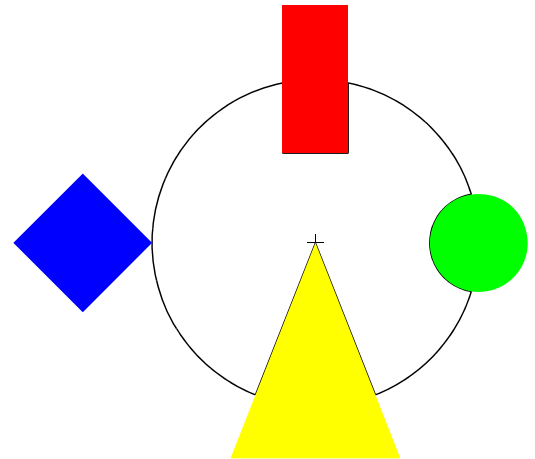
You are going to assemble the Plate, rectangle, circle, triangle, and diamond in this sheet file using references from the various types of models and saved view you have created. Obviously, the first three shapes fit into the Plate, while the Diamond shape will be attached to the left side of the Plate.

- Step 2** In turn, *reference-in* to the sheet model each of the five objects you have drawn. Start with the Plate and add the Rectangle, Circle, Triangle, and Diamond.

Notice how each reference or saved view must be referenced-in. You must find the correct models for the Rectangle and the Circle, the correct design file and saved view for the Triangle, and just the correct design file for the Diamond.

- Step 3** Use the reference *Move* tool to move each object to their correct locations as shown at the right. Check that each object fits correctly in the Plate.

To add to the exercise, go back to the object drawings and make changes to the objects. Reload the Assembly sheet model to see how the references have changed in response to the changes you made.



This is a useful set of objects and you can use them again in the post Module 7 exercise.