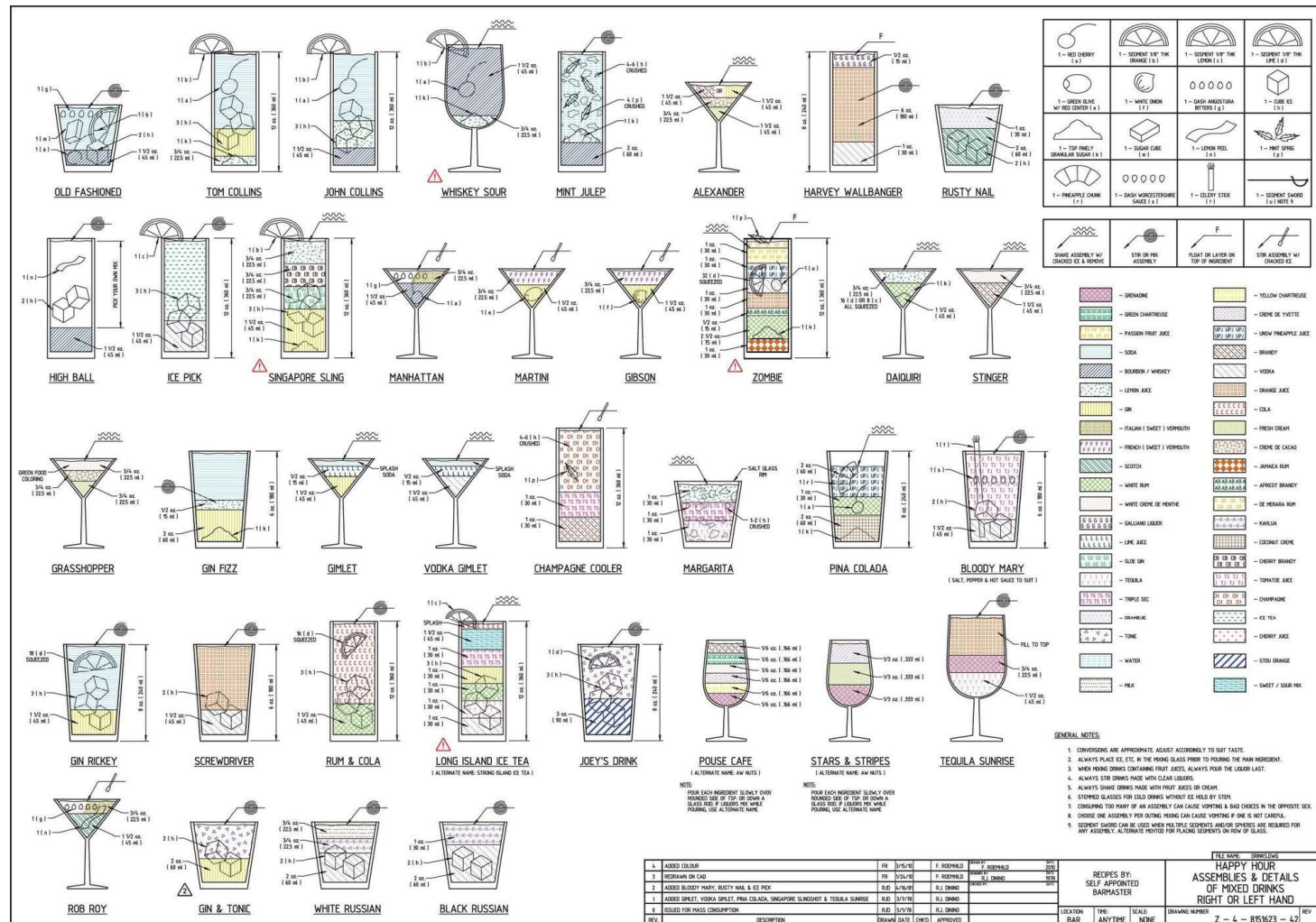


Working with Digital Technologies CAD



<http://www.arch2o.com/wp-content/uploads/2016/07/Architects-Guide-to-Drinks-Blueprint01.jpg>

Gavin M Traylor RIBA

User Coordinate System UCS can assist you to orientate your drawing for orthographic projection.

Type UCS

Look at the Command Line

Click on a suitable origin

Click a positive point on the X axis

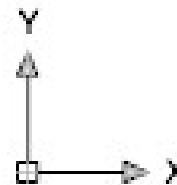
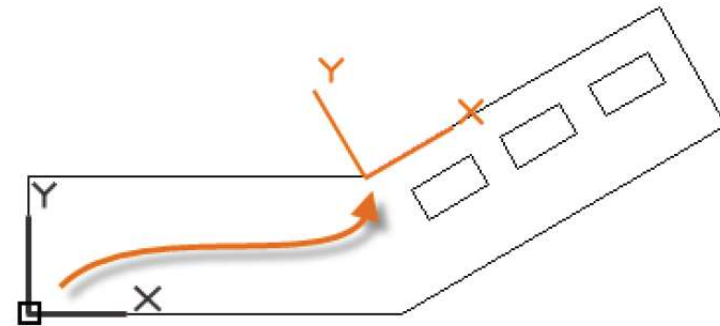
Click a positive point on the Y axis

Select '0' for Z axis (if prompted) (in older versions of AutoCAD)

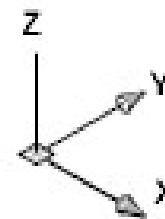
TYPE 'Plan' for reorientation your view to the new UCS

The User Coordinate System

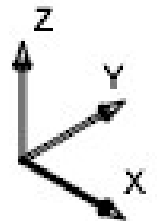
The user coordinate system (UCS) icon indicates the direction of the positive X and Y axis for any coordinates that you enter, and it also defines the horizontal and vertical directions in a drawing. In some 2D drawings, it can be convenient to click, drag, and rotate the UCS to change the origin point, and the horizontal and vertical directions.



2D UCS icon



3D UCS icon



shaded UCS icon

Exercise 3

Using Orthographic Projection

Prepare the remaining Elevations and Sections of the proposed building.

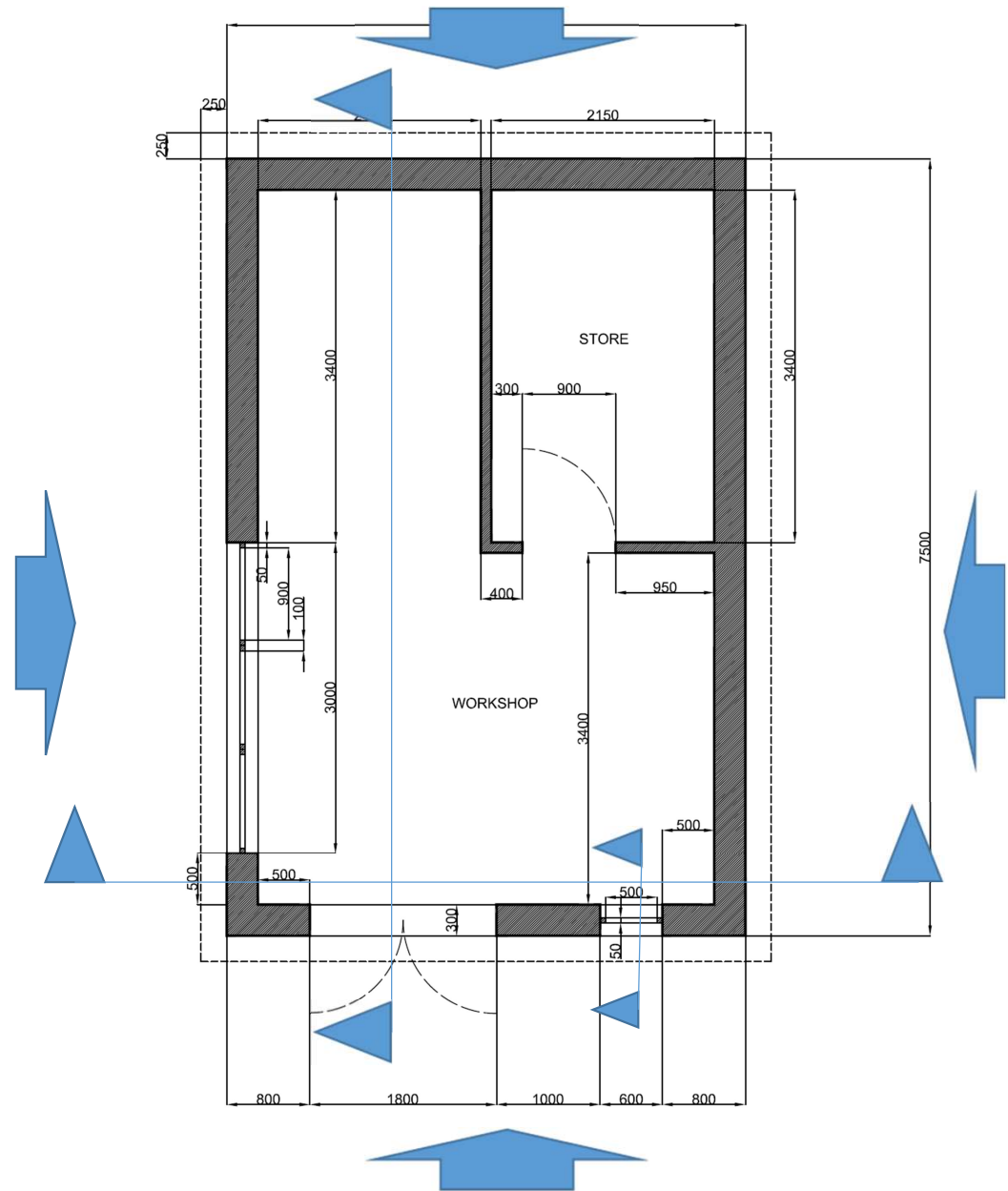
You will need to create a 'UCS' for each

Create appropriate layers

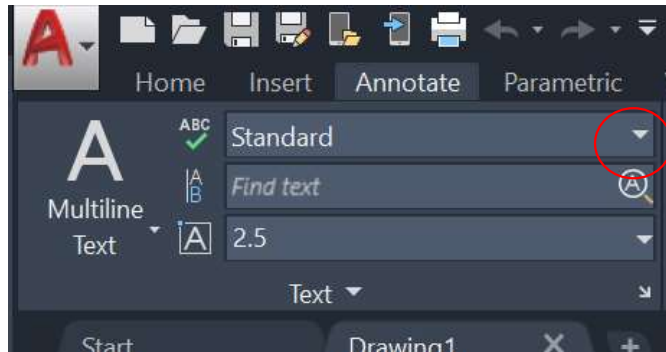
Prepare the detailed section through the window.

Wall construction:

- 100mm Brickwork
- 100mm cavity
- 80mm insulation
- 100mm blockwork
- 12mm plaster

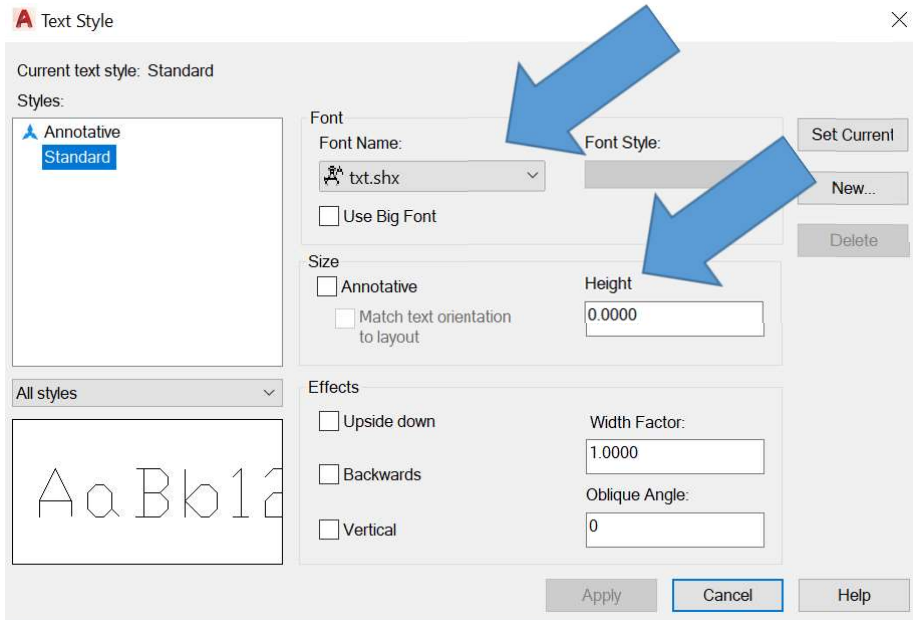


Working with Text



Current
Text Style.

Current
Text Size
(height)



From the drop down arrow under Text Style
Select Manage Text Style

Dialogue box will open.

Text can be added to a drawing and
multiline text 'MTEXT' or Single line text
'TEXT'

Text height can be adjusted to suit your
output requirements.

EG. For 2.5mm height text on your drawing
when printed out. Multiply the text height
by the desired scale of the drawing.

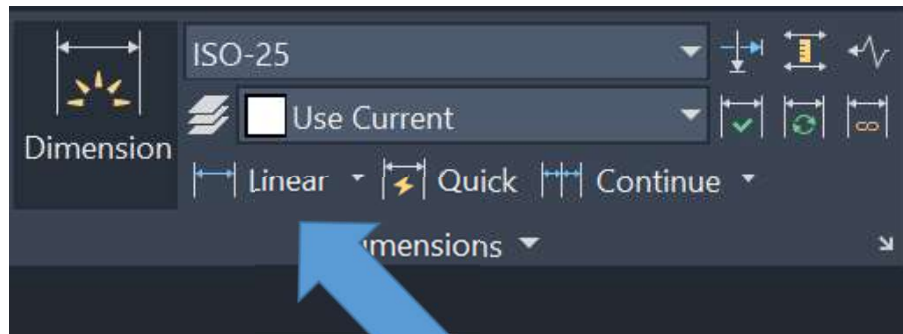
For 1:200 drawing

$2.5 \times 200 = \text{Text height of } 500\text{mm}$

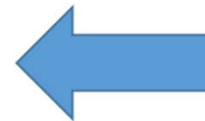
For 1:100 drawing

$2.5 \times 100 = \text{Text height of } 250\text{mm}$

Working with Dimensions



Dimension type



Current Dimension Style.

From the drop down arrow under Dimension Style Select Manage Dimension Styles

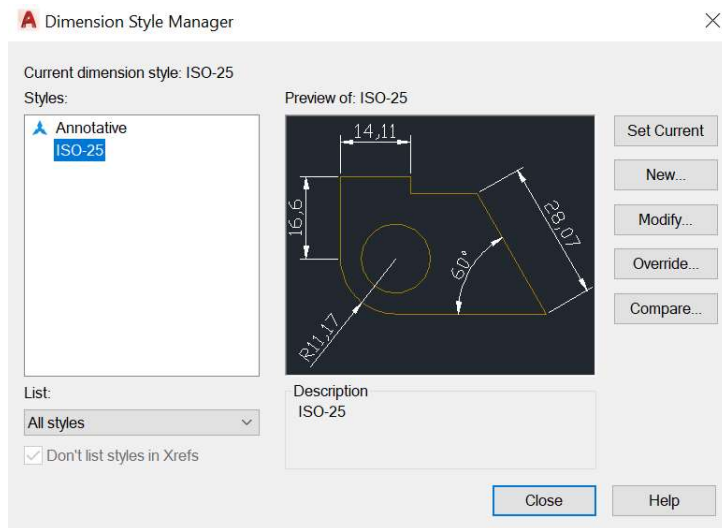
Dialogue Style Manager will open.

You can select the current Dim Style from preloaded styles / Modify a Style or Create your own style.

Consider the Output scale to determine the size of the dimension arrows and text.

EG. For a dim text height of 2.5mm on a 1:200 drawing.

$2.5 \times 200 = 500\text{mm}$ (dimension text height)

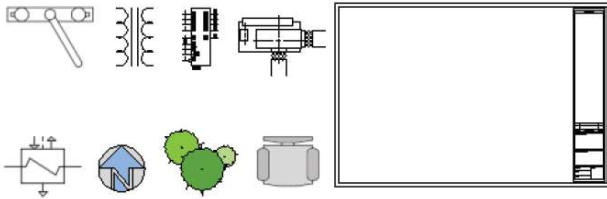


Working with Blocks

Blocks

Insert symbols and details into your drawings from commercial online sources or from your own designs.

In AutoCAD, a *block* is a collection of objects that are combined into a single named object. The following are some sample blocks at various scales.



Some of these blocks are realistic representations of objects, some are symbols, and one of them is an architectural title block for a D-size drawing.

Blocks can be used in your drawings to help simplify your CAD work and making it more efficient use of time. Typical blocks may be – Toilets, sinks, furniture, people, vehicles etc.

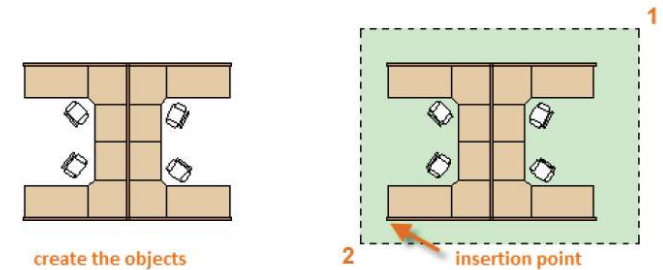
Create a Block Definition

Instead of creating a drawing file to be inserted as a block, you might want to create a block definition directly in your current drawing. Use this method if you do not plan to insert the block into any other drawing. In that case, use the **BLOCK** command to create the block definition.

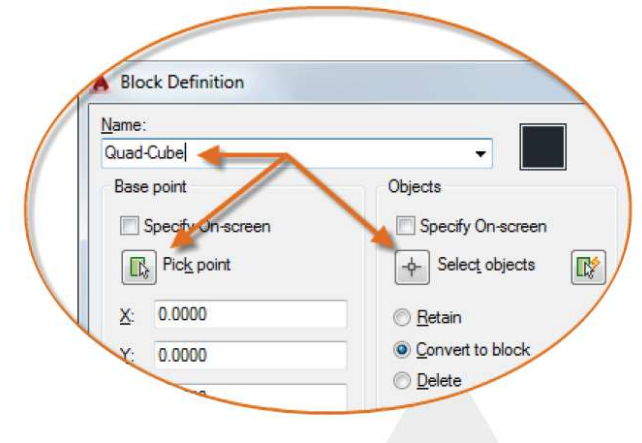


For example, this is how you could create a module for a cubicle design.

1. Create the objects for the block.
2. Start the **BLOCK** command.
3. Enter a name for the block, in this case Quad-Cube.
4. Select the objects that you created for the block (click 1 and 2).
5. Specify the block insertion point.



You can enter the information for steps 3, 4, and 5 into the Block Definition dialog box in any order.



The screenshot displays the Autodesk AutoCAD 2020 ribbon interface. The 'Insert' tab is selected, showing various toolsets. A blue arrow points to the 'Create Block' button in the 'Block' panel. Another blue arrow points to the 'Attach' button in the 'Reference' panel. The drawing area shows a grid and the text '[-][Top][2D Wireframe]'.