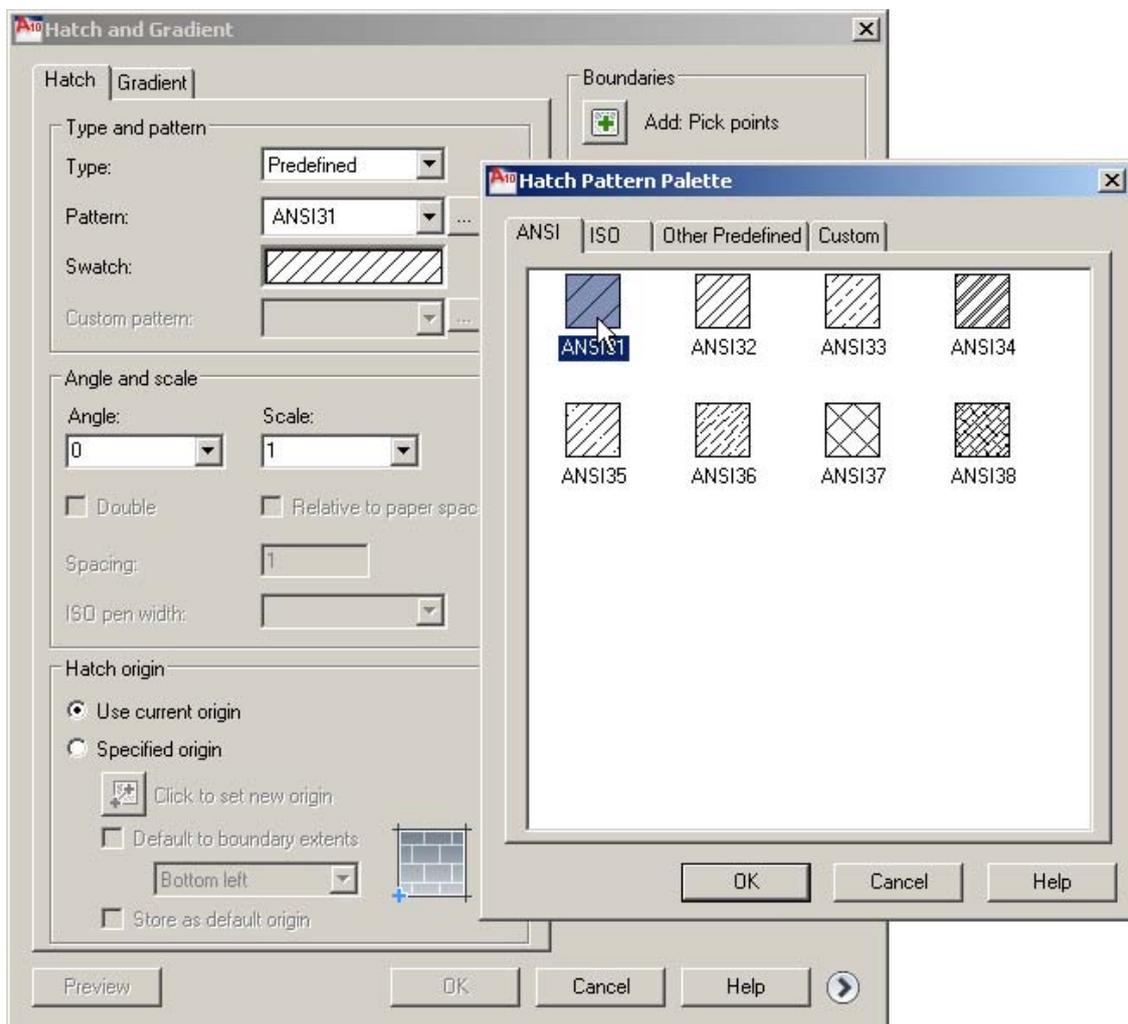


# Introduction to AutoCAD 2010

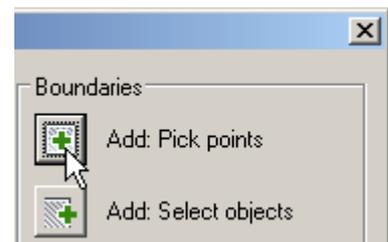
Alf Yarwood

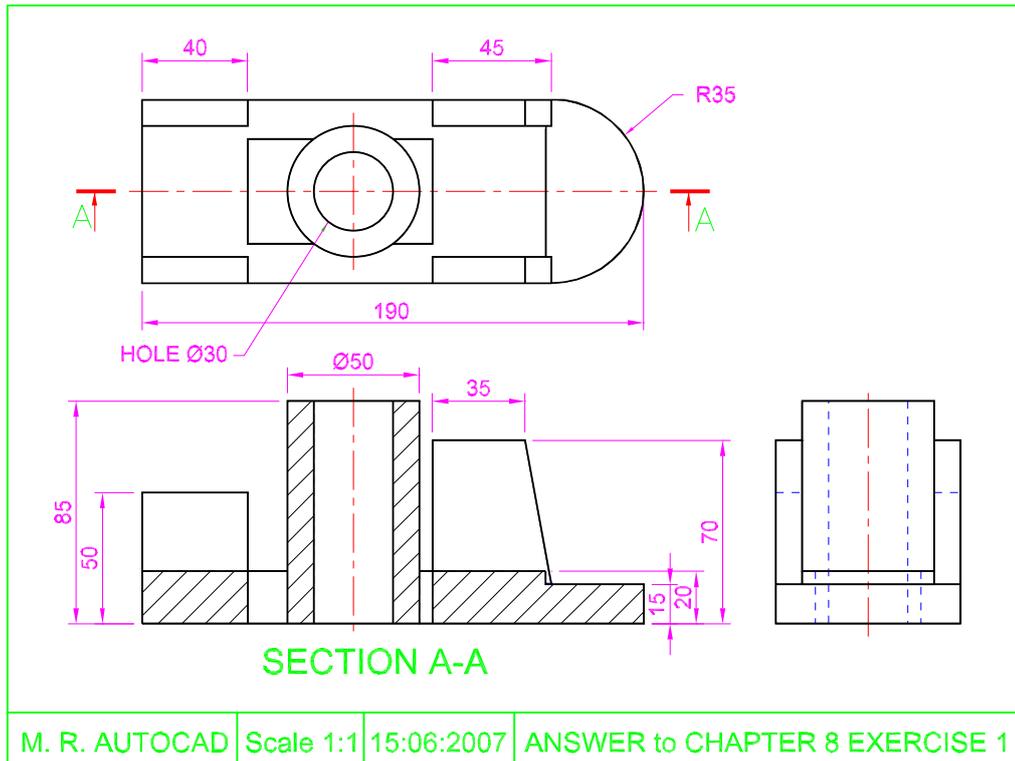
## Chapter 8 Exercise 1

1. Open **acadiso.dwt** - *left-click* **New...** in the **Quick Access** toolbar.
2. Open the template **acadiso.dwt**.
3. Construct the drawing as shown in Fig. 8.20, but change the front view to a sectional view **A-A**.
4. At the command line *enter* **h** and when the **Hatch and Gradient** dialog appears *left-click* in the **Swatch** field. This brings up the **Hatch Pattern Palette**.
5. *Left-click* the **ANSI** label and in the **ANSI** dialog *double-click* the **ANSI31** pattern. The pattern appears in the **Swatch** field of the main dialog. *Enter* **2** in the **Scale** field.
6. *Left-click* the **Add: Pick points** button and *pick* those points within areas in the sectional view which should be hatched.



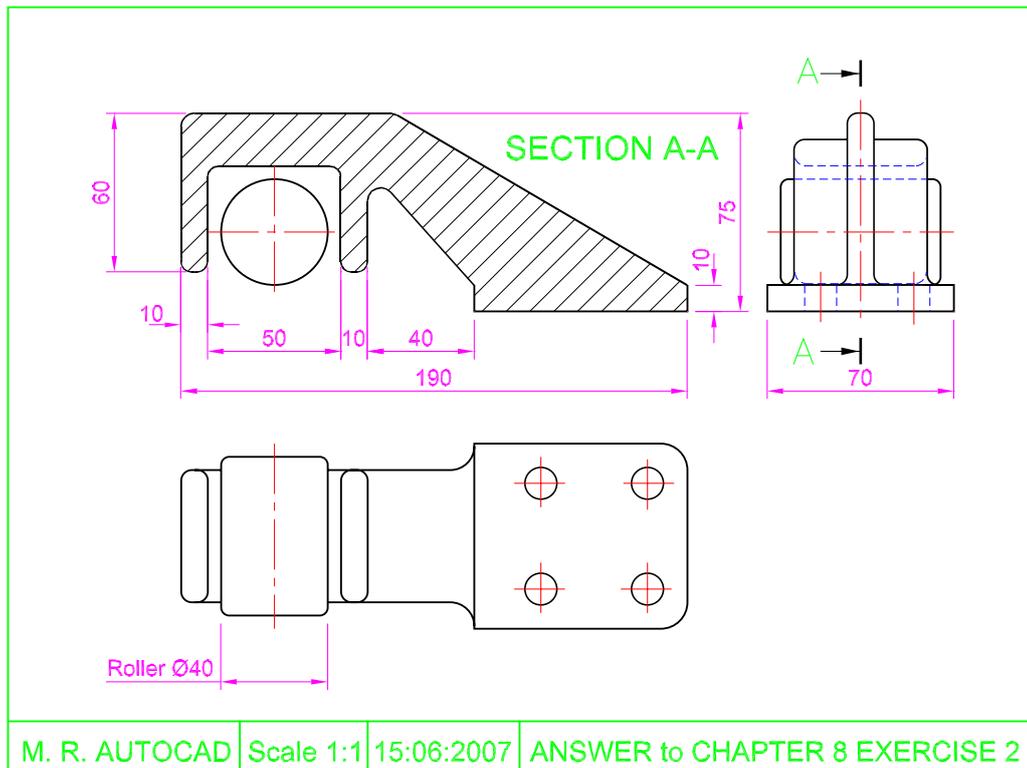
7. The resulting three-view drawing with the front view in section is shown.
8. Place a new floppy disk in the floppy disk slot and save your drawing with the file name **8\_Exercise01.dwg** to your floppy disk.
9. *Left-click* the **Close** button of the drawing window.





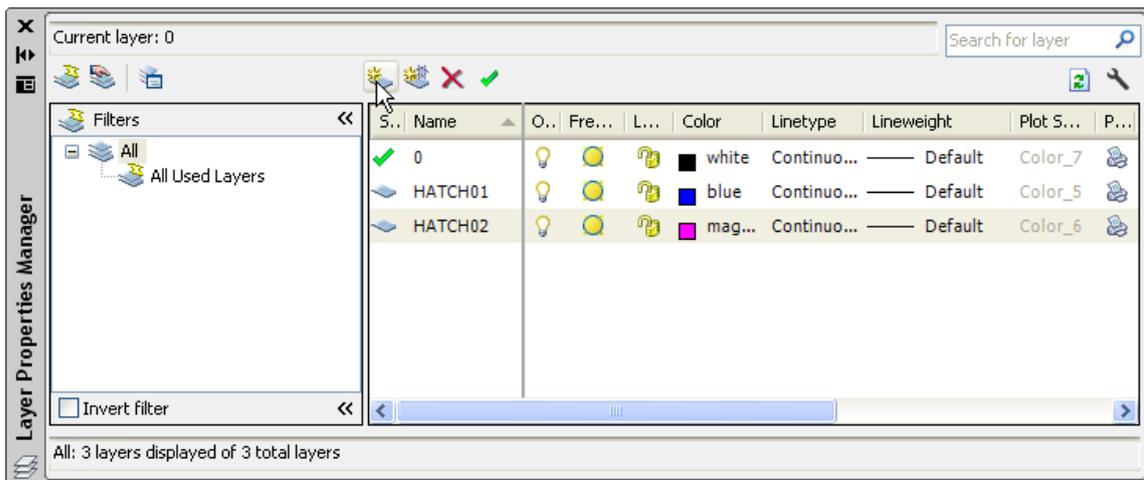
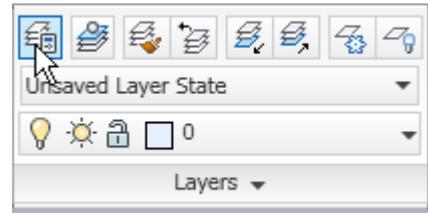
### Chapter 8 Exercise 2

1. Open acadiso.dwt - left-click New... in the Quick Access toolbar.
2. Following a similar procedure as for Exercise 1 construct the required drawing.
3. Save your drawing with the file name 8\_Exercise02.dwg to your floppy disk.
4. Left-click the Close button of the drawing window.



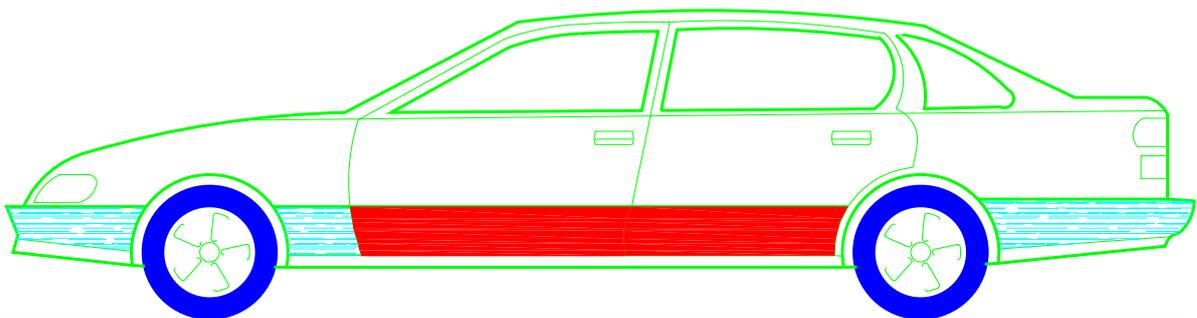
## Chapter 8 Exercise 3

1. Open **acadiso.dwt** - *left-click* **New...** in the **Quick Access** toolbar.
2. *Left-click* the **Layer Properties Manager** icon in the **Help/Layers** panel. This brings the dialog on screen.
3. In the dialog *left-click* the **Delete Layer** icon and delete all layers other than layer **0**. The layers will be deleted when the **OK** button of the dialog is *clicked*.
4. Make new layers, all with lines **Continuous**: **HATCH01**: blue and **HATCH02**: magenta.
5. Construct the drawing as described by the stages in Fig. 8.22.
6. Save your drawing with the file name **8\_Exercise03.dwg** to your floppy disk.
7. *Left-click* the **Close** button of the drawing window.



## Chapter 8 Exercise 4

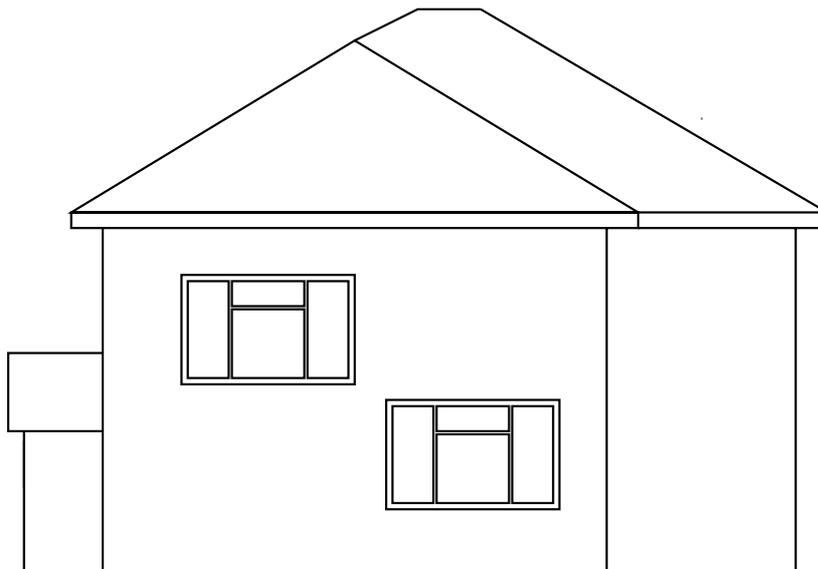
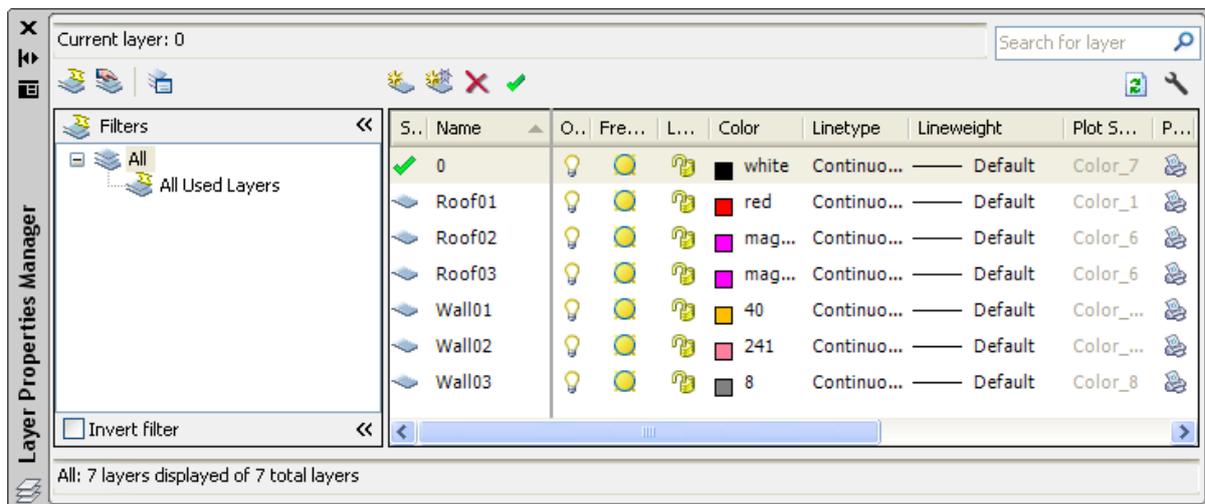
1. Open **acadiso.dwt** - *left-click* **New...** in the **Quick Access** toolbar.
2. Make new layers, all with lines **Continuous**: **Layer 1**: black: **HATCH01**: green: **HATCH02**: cyan: **HATCH03**: red: **HATCH04**: blue.

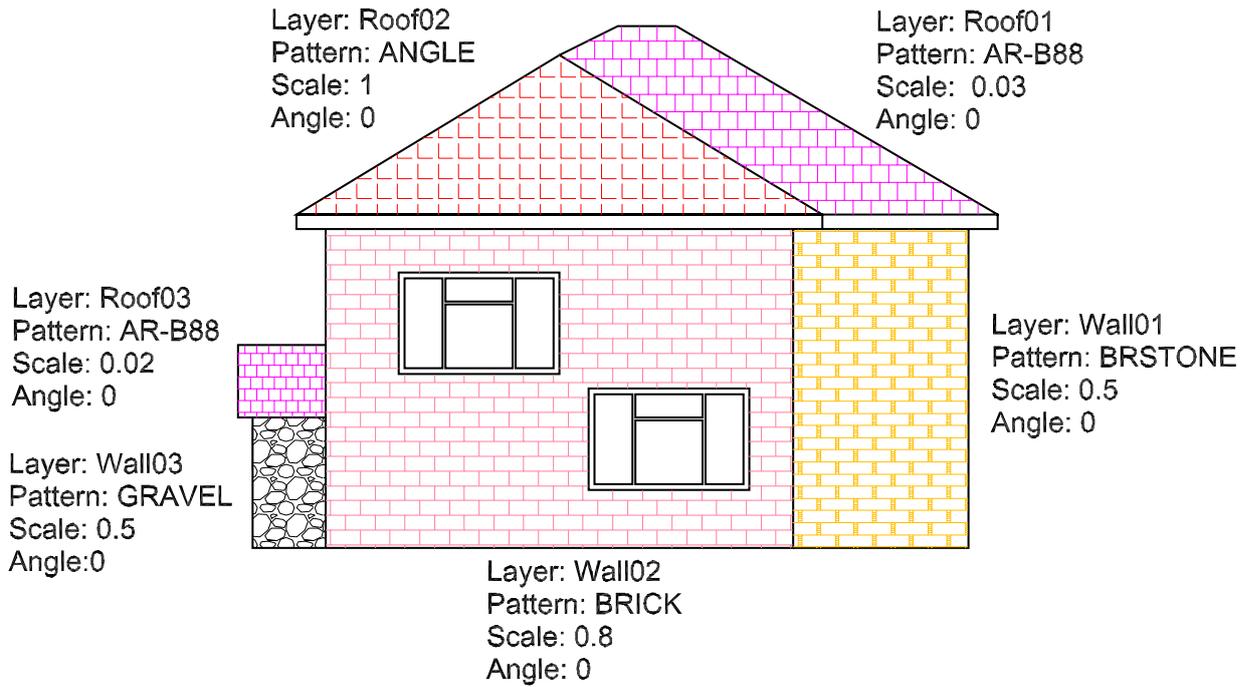


3. Construct the outlines of the drawing.
4. Hatch as required.
5. Save your drawing with the file name **8\_Exercise04.dwg** to your floppy disk.
6. *Left-click* the **Close** button of the drawing window.

### Chapter 8 Exercise 5

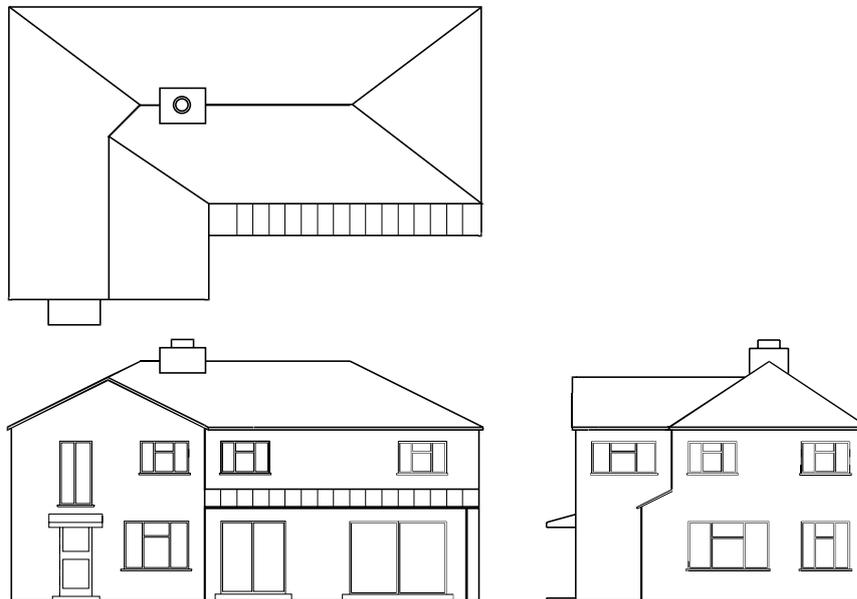
1. Open **acadiso.dwt** - *left-click* **New...** in the **Quick Access** toolbar.
2. Delete all layers other than layer **0** and make new layers, all with **Continuous** linetype: **Roof01**: red; **Roof02**: Magenta; **Roof03**: magenta; **Wall01**: color 40; **Wall02**: colour 241; **Wall03**: colour 8.
3. Construct the house outlines as shown in Fig. 8.24.
4. Call the **Hatch and Gradient** dialog by *entering* **h** at the command line and hatch the parts of the drawing as shown.
5. Save your drawing with the file name **8\_Exercise05.dwg** to your floppy disk.
6. *Left-click* the **Close** button of the drawing window.



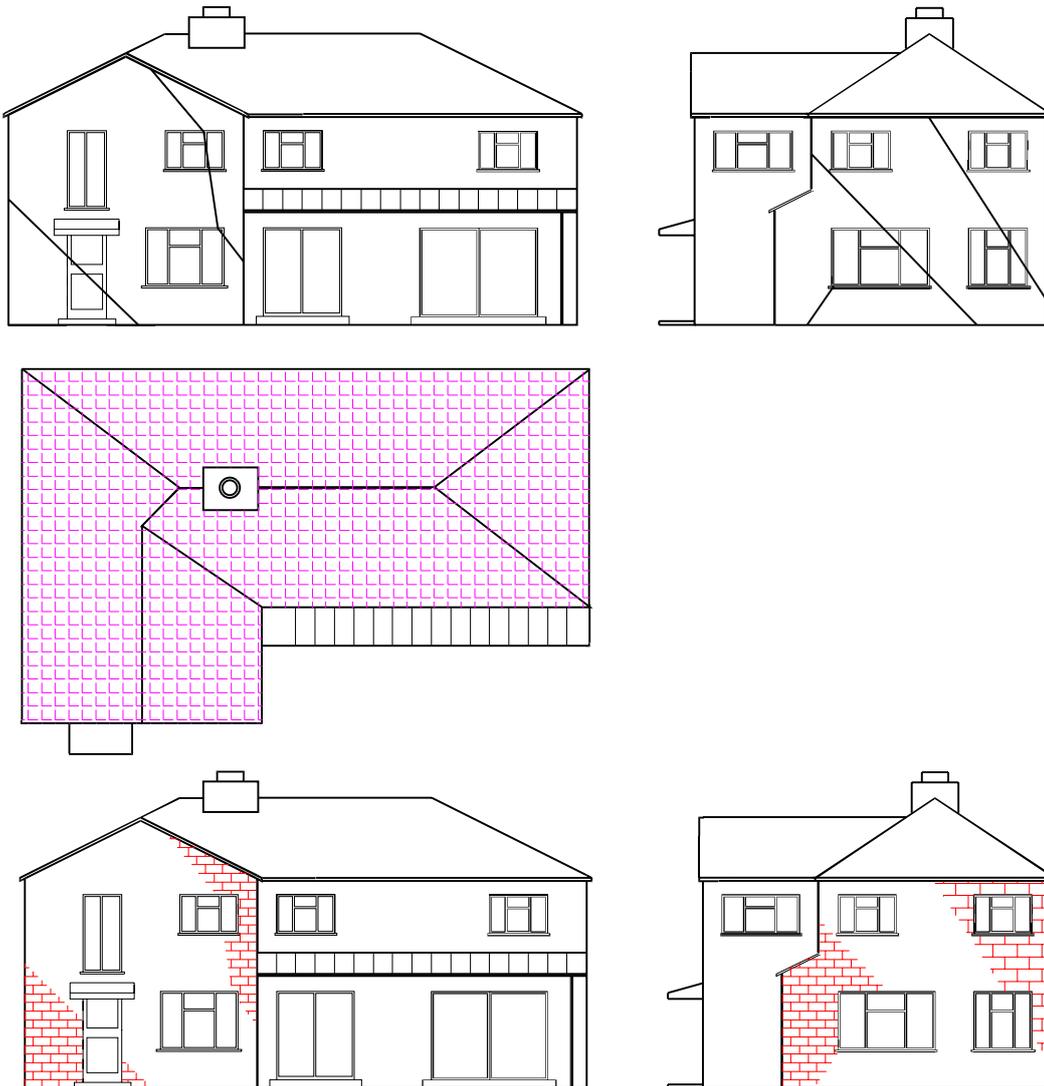
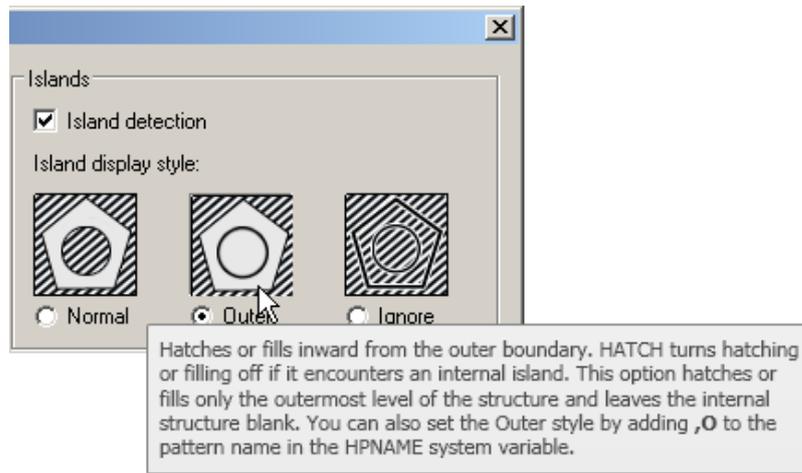


### Chapter 8 Exercise 6

1. Open **acadiso.dwt** - *left-click New...* in the **Quick Access** toolbar.
2. Open the **Layer Properties Manager** dialog and delete all layers other than layer **0**. Make new layers, all with **Continuous** linetype; **Roof**: magenta; **Wall**: red; **Hatch**: colour 8.
3. Construct the outlines of the drawing on layer **0**.
4. Make the layer **Hatch** current and construct plines as shown (next page).



5. Make the layer **Wall** current and make sure the **Outer** method is on in the **Advanced** sub-dialog of the **Hatch and Gradient** dialog, fill the area as shown with hatching of a pattern **BRICK** to a scale of **0.7**.
6. Turn the layer **Hatch** off.
7. Make the layer **Roof** current. Open the **Boundary Hatch and Gradient** dialog again and hatch the roof areas using the pattern **ANGLE** to a scale of **1**.



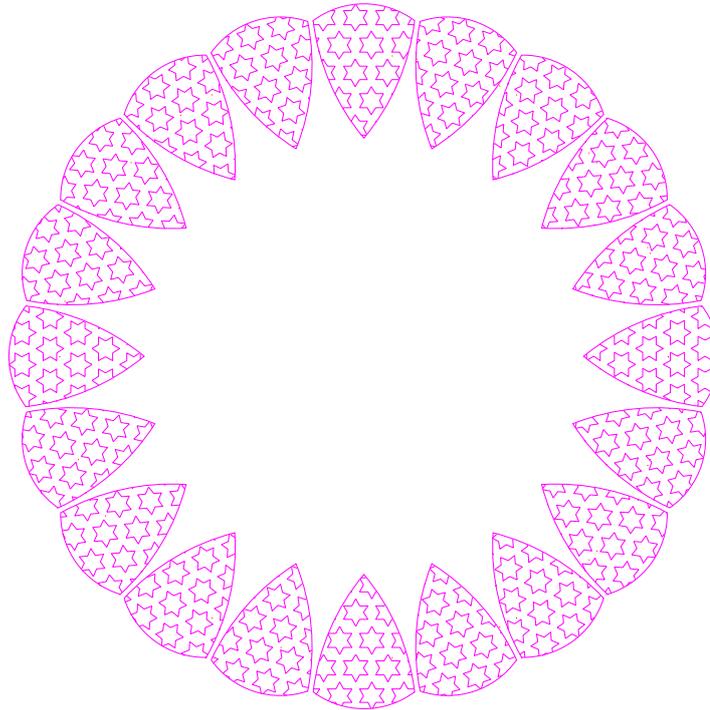
8. Save your drawing with the file name **8\_Exercise06.dwg** to your floppy disk.

9. *Left-click* the **Close** button of the drawing window.

## Chapter 8 Exercise 7

1. Open **acadiso.dwt** - *left-click* **New...** in the **Quick Access** toolbar.

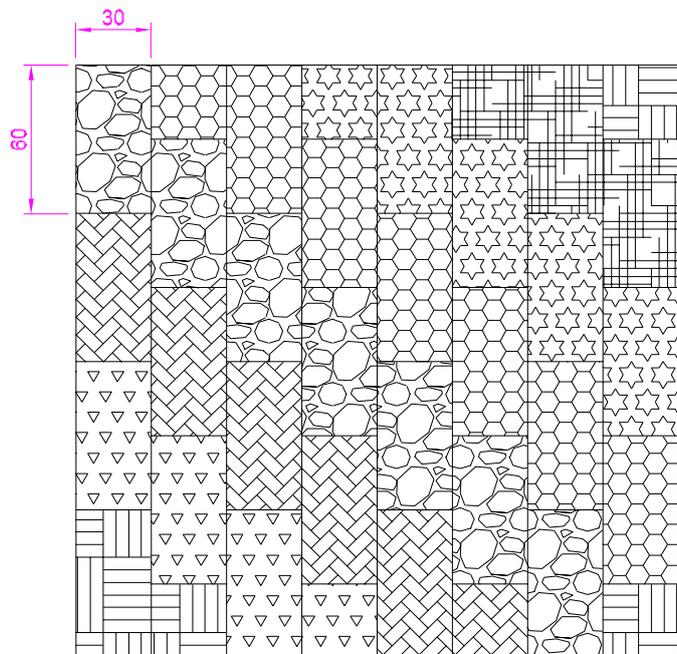
2. Follow the instructions given in Exercise 7 of Chapter 8 with the exception that a new layer color **magenta** is created on which the drawing is constructed.
3. Save your drawing with the file name **8\_Exercise07.dwg** to your floppy disk.
4. *Left-click* the **Close** button of the drawing window.



### Additional exercises

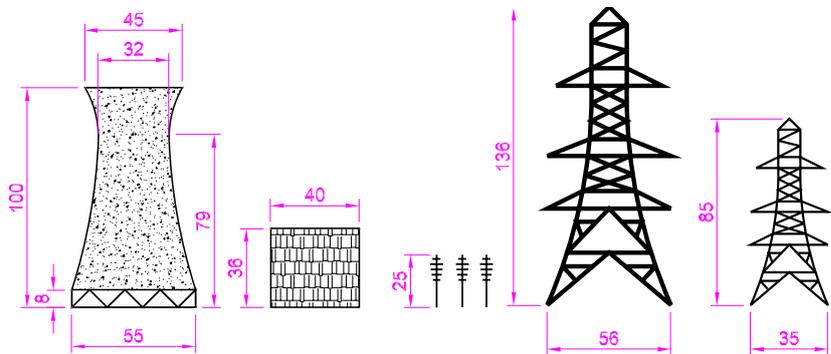
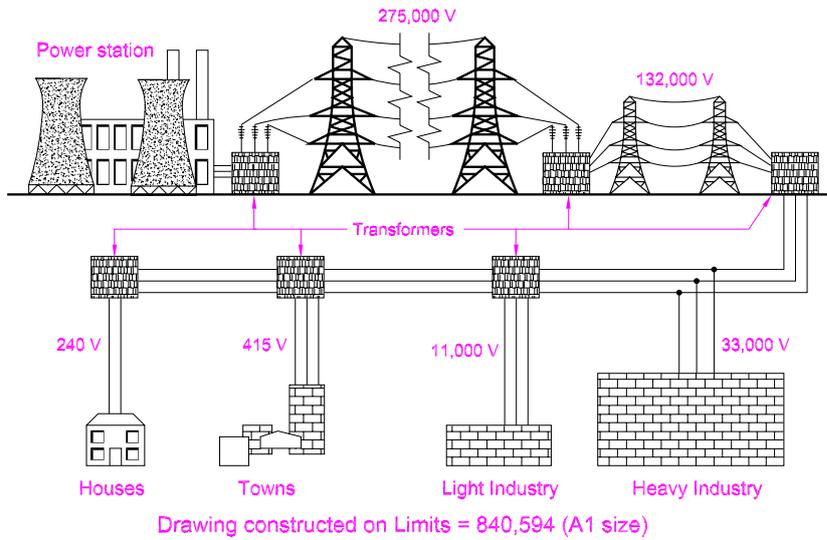
1. The **60 x 30** rectangles were constructed by first drawing two plines each **240** long and at right angles to each other. These were then offset at **30** to form a network of squares of side length **30**. Using the **Trim** tool these were then converted to rectangles **60 x 30**, except for some squares at the end of the rectangles.

Using any suitable **Hatch** patterns hatch the rectangles and squares as shown.

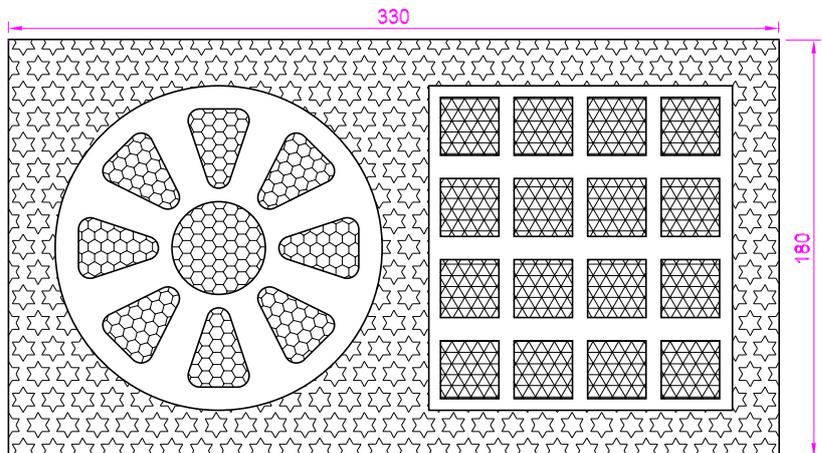


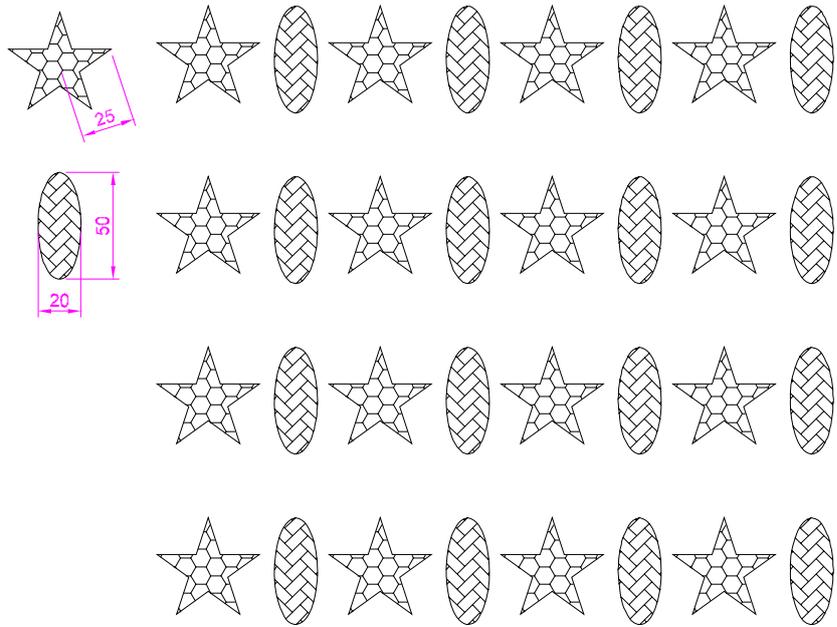
2. The upper drawing is a diagrammatic drawing of an electrical power supply system. The lower drawing gives dimensions of some of its parts.

Set the drawing **Limits** of the AutoCAD drawing area to **840,594** and construct the upper drawing using a variety of hatch patterns for the various parts.



3. Construct the drawing to any suitable dimensions within the given dimensioned rectangle. The use of the **Array** tool is advised for the repeated parts. Hatch with a variety of hatch patterns, choosing suitable hatch scales.

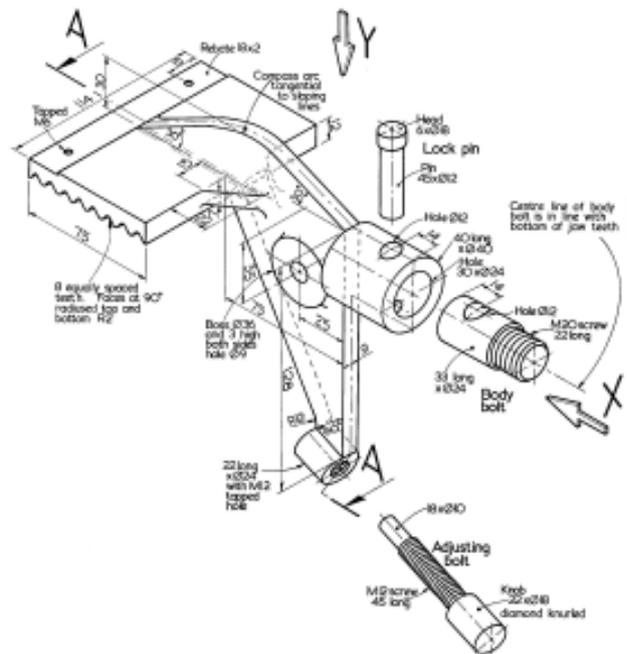




4. Construct the two hatched and dimensioned outlines and using the **Array** tool form the array as shown.

5. A photograph of the jaw from a tensometer is shown together with an isometric drawing of the tensometer jaw. Working to a scale of **1:1** construct the following two third angle orthographic views:

- (a) An end view as seen in the direction of the arrow.
- (b) A sectional view on the section plane A-A.



### Multiple choice questions

1. Associative hatching is a term given to:
  - (a) Types of hatching which can be joined together
  - (b) Hatching which is associated with the colour of the area being hatched
  - (c) Hatching which is associated with objects which are moved within a hatched area
  - (d) Hatching which is associated with a hatched area from another part of a drawing
2. The **Hatch and Gradient** dialog can be called to screen:
  - (a) By *clicking* the **Hatch** tool icon in the **Home/Draw** panel
  - (b) By *entering* the abbreviation **h** at the command line
  - (c) By *entering* **hatch** at the command line
  - (d) By any one of the choices as given in **a, b** or **c**

3. When hatching a sectional view in an engineering drawing:
  - (a) Every detail cut by a section plane must be hatched
  - (b) It is up to the operator constructing the drawing which parts are hatched
  - (c) There is no need to hatch any part of the drawing
  - (d) A bolt within a sectional view is not hatched
4. When **Advanced** hatching is set to **Normal** all parts of a drawing will be hatched:
  - (a) True?
  - (b) False?
5. When text is *entered* in a hatched area:
  - (a) The text will be surrounded by a non-hatched area only if **Advanced Normal** is set on
  - (b) The text will be surrounded by a non-hatched area only if **Advanced Outer** is set on
  - (c) The text will be surrounded by a non-hatched area only if **Advanced Ignore** is set on
  - (d) The text will be surrounded by a non-hatched area if any of the **Advanced** settings are set on