## 5. MOVE $\ddagger$

Move allows you to relocate one or more objects from the existing position in the drawing to any other position you specify. After selecting the objects to move, you must specify the base point and second point of displacement.

Methods for invoking the MOVE command include:

1. Toolbar: $\ddagger$
2. Pull-down menu : Modify > Move
3. Command : Move

The prompts for the MOVE command are as follows:
Command: move
Select objects: (Select objects you want to move )
Select objects: ( Press ENTER )
Base point or displacement: ( Select a point )

Second point of displacement: ( Select a point )
In the following figure, you want to put a corner of the rectangle at the center of the circle.

Command: move
Select objects: 1 found ( select the rectangle )
Select objects: ( Press ENTER )
Base point or displacement: end of (Select the corner of the rectangle )
Second point of displacement: center of (Select any point on the circle circumference)

Command:

BEFORE


Choose this intersection

AFTER


Choose this circumference

## 6. MIIRROR $\triangle \mathbb{A}$

This command creates a mirror image of selected existing objects. You can retain or delete the original objects ('old object' ). After selecting objects, you create two points specifying a mirror line about which to mirror.

Methods for invoking the MIRROR command include:
Toolbar: $\mathbb{\Delta}$
Pull-down menu : MODIFY > MIRROR
Command : MIRROR
An example of the scale command prompt is as follows:
Command : mirror
Select Object : PICK ( Select object or group of object to mirror )
Select Object : Enter ( Press Enter to indicate completion of object selection. )

First point of mirror line : PICK or (coordinates) (Draw first endpoint of line to
represent mirror axis by PICKing or entering coordinates)
Second point of mirror : PICK or (coordinates) (Draw second point of line by PICKing or entering coordinates)

Delete old objects ? <N> Enter or Y ( Press Enter to yield both sets of objects or enter Y to keep only the mirrored set.)

Example (6-1). Draw the left half of the figure then mirror the objects to create the right half.


Or


Example (6-2): Draw the following figure using modify commands.


Example(6-3): Draw the following figure using move copy, Rotate commands.


## 7. ARRAY

The array command creates either a Rectangular or Polar ( circular ) pattern of existing object that you select. The pattern could be created from a single or from a group of objects. Array copies a duplicate set of objects for each 'item' in the array.

Methods for invoking the ARRAY command include:
Toolbar: 哭
Pull-down menu : MODIFY > ARRAY
Command : Array

## Rectangular

This option creates an Array of the selection set in a pattern composed of rows and columns. The command syntax for a rectangular is given next:

Command : Array
Select Objects : PICK ( Select object to be arrayed)
Select Objects : Enter ( Indicates completion of object selection)
Rectangular or Polar array ( $<\mathrm{R}\rangle / \mathrm{P}$ ) : $\mathbf{R}$ (indicates rectangular)
Number of rows (---)<1>: (value) ( enter value for number of rows)
Number of columns (lll)<1> : (value) (enter value for number of columns)

Unit cell or distance between rows (---): ( value) ( enter a value for the distance from any of one object to the same point on an object in the adjacent row.
Distance between columns (1ll) : (value) (enter a value for the distance from any point on one object to the same point on an object in the adjacent column.


Figure 6-1: Using Array with Rectangular option

## Polar

This option creates a circular pattern of the selection set with any number of copies or 'items'. The number of item specified includes the original selection set. You also specify the center of the array, angle to generate the array through and orientation of 'item'.

Command : Array
Select Object : PICK ( select object to be arrayed)
Select Object : Enter
Rectangular or Polar array ( <R>/P ) : $\mathbf{P}$ (indicates Polar array)
Center point of array : PICK ( select point from array to be generated around)

Number of items: ( value ) (enter value for number of copies including original selection set )

Angle to fill (+=ccw,-=cw) < $360>$ : Enter or (value) (press enter for full circular array, enter value for less than 360 degree array; enter negative value for clockwise generation array)

Rotate object as they are copied? <Y> Enter or N (Press Enter for rotation of copies object about center, N for keeping objects in original orientation.)


Figure 6-2 : Using ARRAY Command with polar option

## Example (6-3): Draw the following figure.

using rectangular array with Row 5, Column 6, Row offset 50,
Column offset -50
using polar array with Center Point 215,170, Total Number: 8


