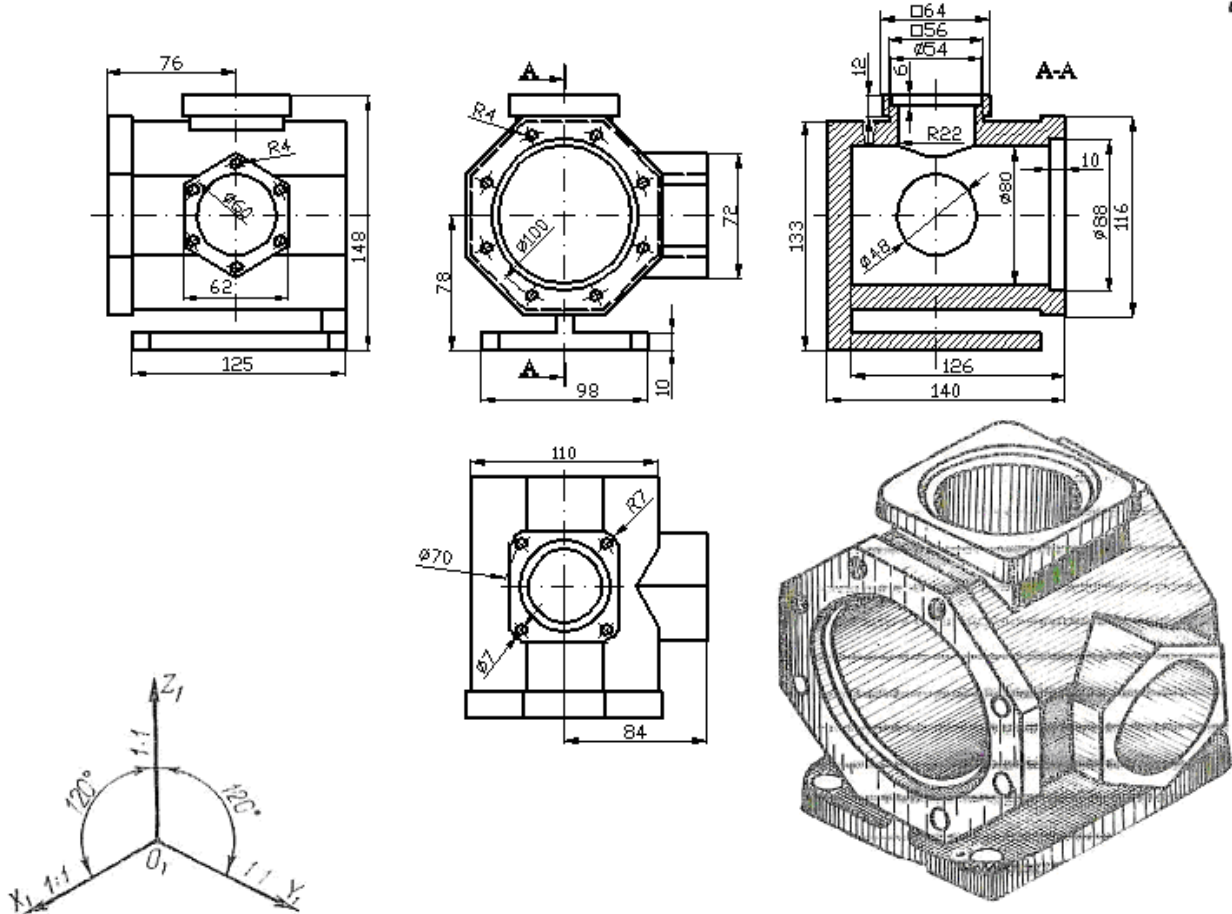


STUDIU PRIVIND REPREZENTAREA ÎN PLAN CU AJUTORUL PROGRAMULUI AutoCAD

Aplicația 2

PLANȘA 27

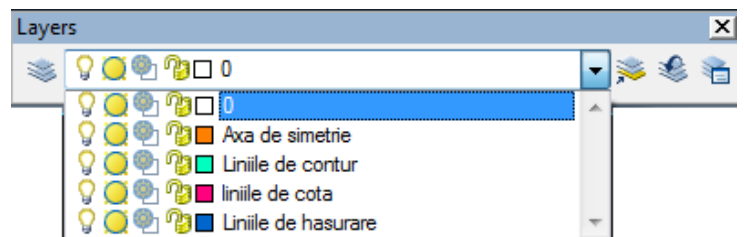


Pentru reprezentarea în 2D a reperului numărul 27 am folosit programul AutoCad 2008.

Pentru început, se setează dimensiunile spațiului de lucru prin comanda LIMITS și se introduc dimensiunile formatului A4 (210x297 mm).

Următoarea etapă este stabilirea layerelor, ele fiind create din bara de layer. Numărul lor este stabilit în funcție de cât de complexă este piesa, dar în general se folosesc minim 4 :

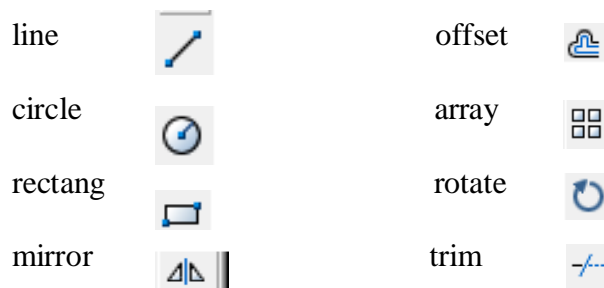
- un layer pentru axele de simetrie
- un layer pentru liniile de contur
- un layer pentru liniile de hașurare
- un layer pentru liniile de cotă



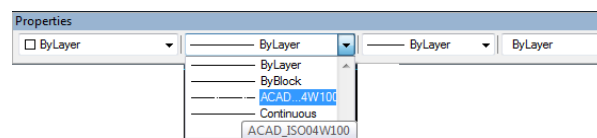
În desenarea piesei am folosit toate aceste 4 layeruri descrise mai sus.

Urmatoarea etapă este desenarea propriu-zisă, majoritatea comenzilor folosite pentru desenarea 2D au fost : polygon, line, circle, rectangle.

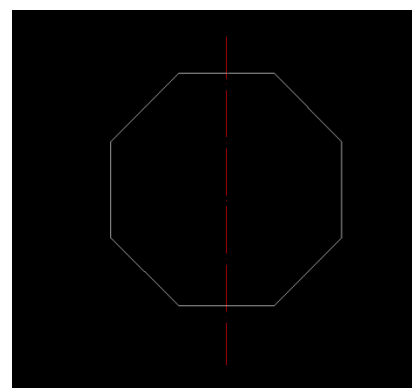
Pentru editarea desenului s-au folosit comenzi din bara Modify: offset, array, rotate, trim, mirror.



Trasarea axelor de simetrie se face cu comanda « line », iar schimbarea acesteia din linie-continuă în line-punct se face prin schimbarea tipului de linie din bara Properties.

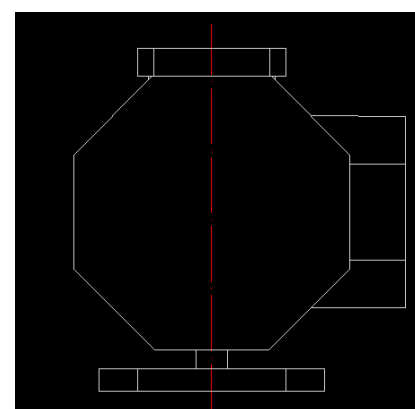


Folosim comanda polygon, introducem numarul de laturi « 8 », specificăm centrul, selectăm opțiunea « circumscris în cerc » și obținem imaginea >>>

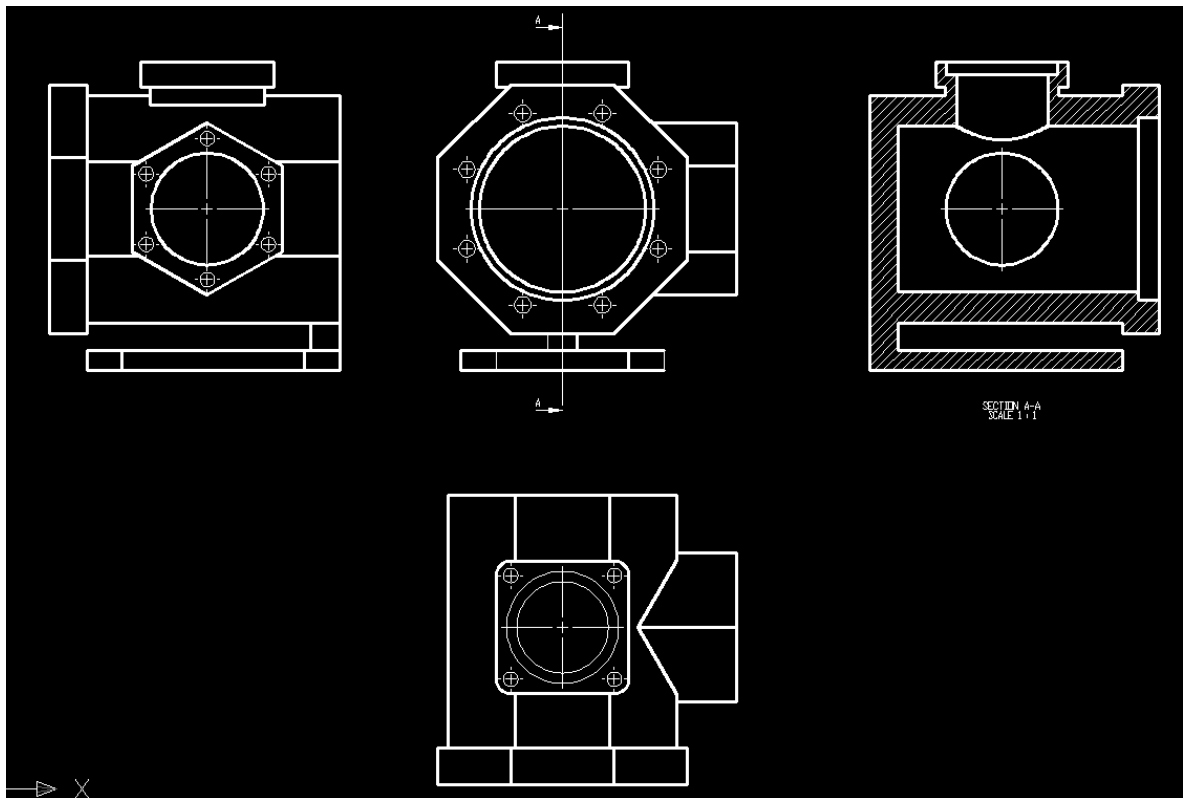


Folosind cotele înscrise pe planșa de lucru , cu comanda line vom obține imaginea alăturată.

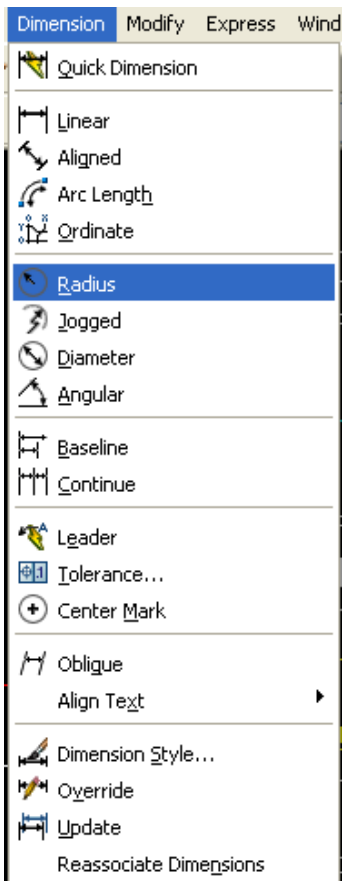
>>>



Se folosesc comenzile descrise mai sus până vom obține toate proiecțiile cerute :



Cu comanda Hatch s-a realizat hașurarea părților secționate.

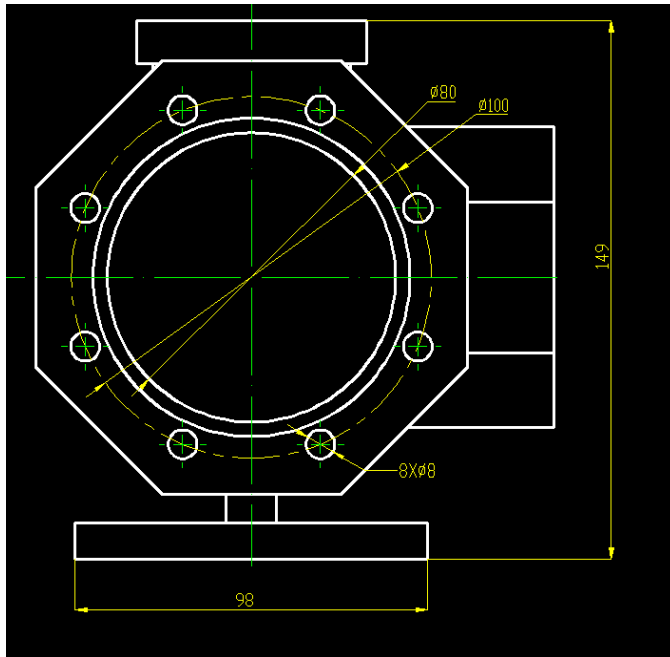


COTAREA-se face din meniul DIMENSION

- se selecteaza tipul de cotare de care avem nevoie : liniară, aligned, radius, diameter, angular

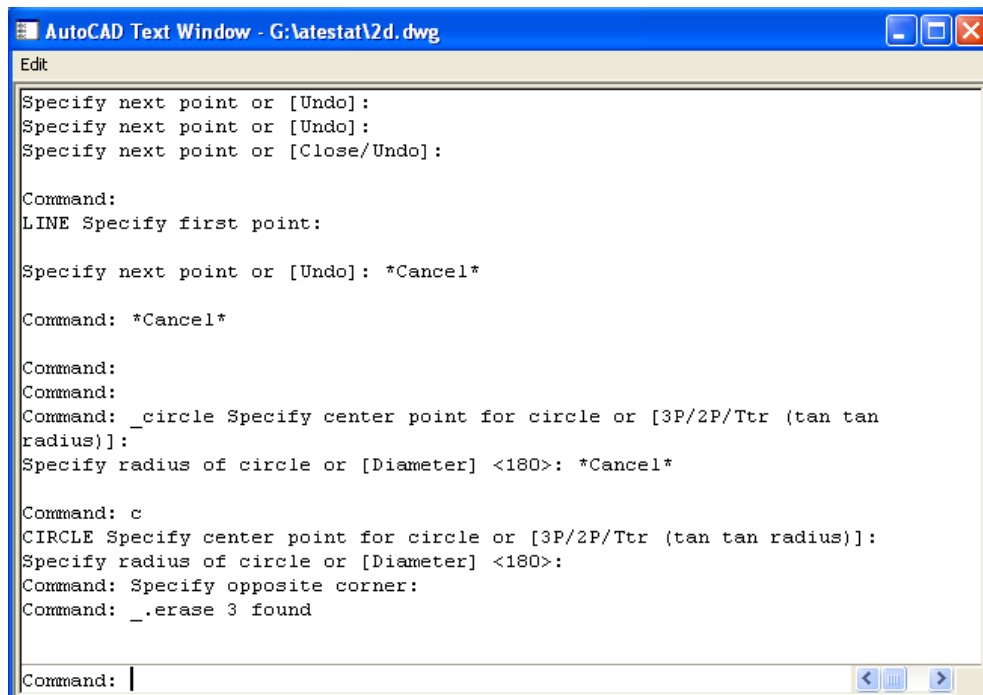
- scopul cotării este acela de a furniza utilizatorului informații concrete despre dimensiunile la care se construiește un element sau un ansamblu de elemente

-proiecția cotateă va arăta ca în desenul următor

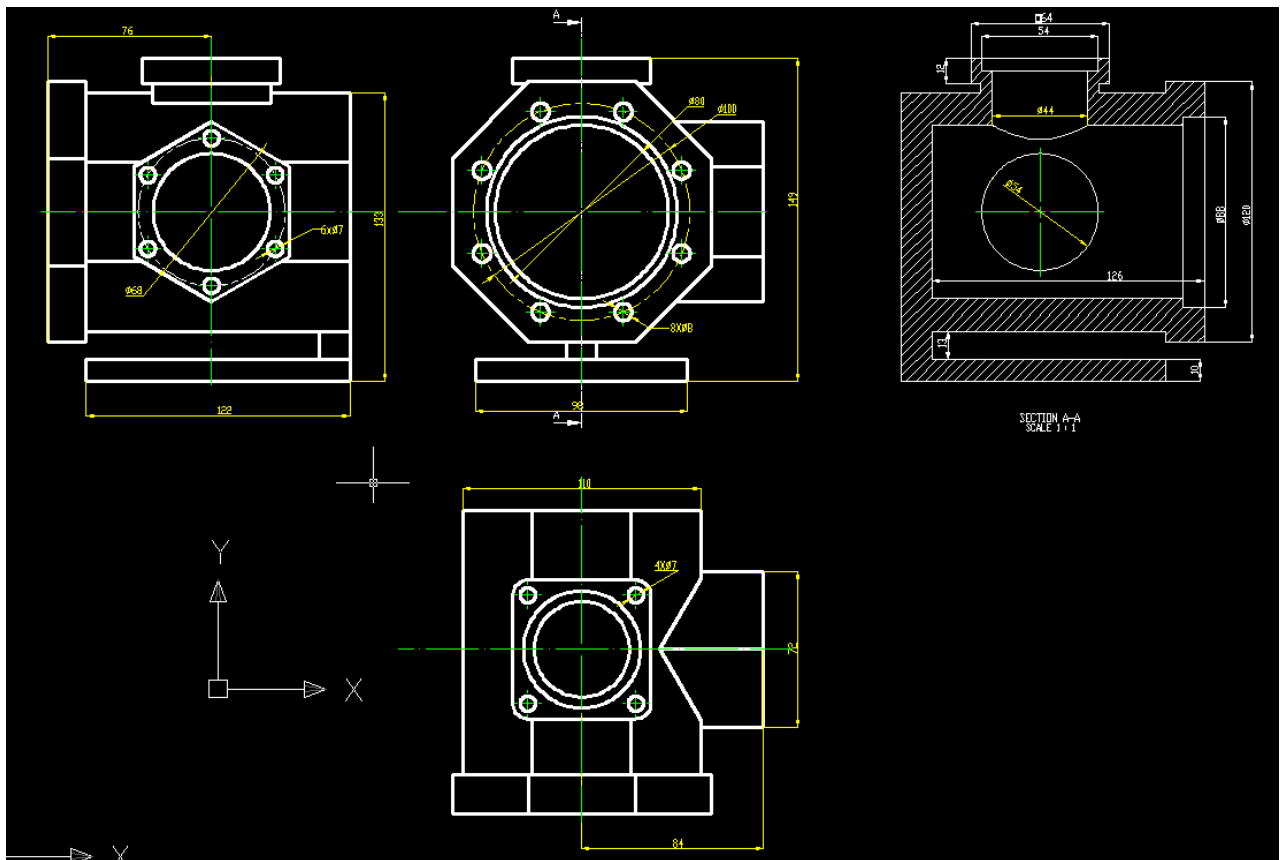


PREVIZUALIZAREA COMENZILOR FOLOSITE

Prin apăsarea tastei funcționale F2, se poate accesa o fereastră de text extinsă care conține istoria comenzilor din sesiunea curentă de lucru, în aproximativ 400 de linii de text.



DESENUL FINAL 2D



Algoritmul folosit este următorul:

Customization file loaded successfully. Customization Group: ACAD
Customization file loaded successfully. Customization Group: CUSTOM
Customization file loaded successfully. Customization Group: EXPRESS
Regenerating model.

AutoCAD Express Tools Copyright © 2002-2004 Autodesk, Inc.

AutoCAD menu utilities loaded.

Command: COMMANDLINE

Command: TOOLPALETTES

Command: DASHBOARD

Command: _qsave

LINE Specify first point:

Specify next point or [Undo]: 14

Command: l

LINE Specify first point:

Specify next point or [Undo]: 78

Specify next point or [Close/Undo]:

Command: c

CIRCLE Specify center point for circle or [3P/2P/Ttr (tan tan radius)]:

Specify radius of circle or [Diameter]: d

Specify diameter of circle: 88

Command:c

CIRCLE Specify center point for circle or [3P/2P/Ttr (tan tan radius)]:

Specify radius of circle or [Diameter] <44.0000>: d
Specify diameter of circle <88.0000>: 80
Command: _polygon Enter number of sides <4>: 8
Specify center of polygon or [Edge]:
Enter an option [Inscribed in circle/Circumscribed about circle] <I>: C
Specify radius of circle: 58
Command: _polygon Enter number of sides <8>:
Specify center of polygon or [Edge]:
Enter an option [Inscribed in circle/Circumscribed about circle] <C>: C
Specify radius of circle: 55
Command: c
CIRCLE Specify center point for circle or [3P/2P/Ttr (tan tan radius)]:
Specify radius of circle or [Diameter] <40.0000>: d
Specify diameter of circle <80.0000>: 100
Command: c
CIRCLE Specify center point for circle or [3P/2P/Ttr (tan tan radius)]:
Specify radius of circle or [Diameter] <50.0000>: 4
Command: _array 1 found
Specify center point of array:
Command: Specify opposite corner:
Command: 1
LINE Specify first point:
Specify next point or [Undo]: 49
Specify next point or [Undo]:
Command:
LINE Specify first point:
Specify next point or [Undo]: 98
Specify next point or [Undo]:
Command:
LINE Specify first point:
Specify next point or [Undo]: 10
** STRETCH **
Specify stretch point or [Base point/Copy/Undo/eXit]:
Specify next point or [Undo]: Zero length line created at (2187.3834,
2143.4839, 0.0000)
** STRETCH **
Specify stretch point or [Base point/Copy/Undo/eXit]:
Command: 1
LINE Specify first point:
Specify next point or [Undo]: 5
** STRETCH **
Specify stretch point or [Base point/Copy/Undo/eXit]:
Command: 1
LINE Specify first point:
Specify next point or [Undo]: 84
Specify next point or [Undo]:
Command: 1
LINE Specify first point:
Specify next point or [Undo]: 72
Specify next point or [Undo]:

Command: l
LINE Specify first point:
Specify next point or [Undo]: 72
Specify next point or [Undo]:
** STRETCH **
Specify stretch point or [Base point/Copy/Undo/eXit]:
Command: _polygon Enter number of sides <8>: 6
Specify center of polygon or [Edge]:
Enter an option [Inscribed in circle/Circumscribed about circle] <C>: I
Specify radius of circle: 36
Command: _rotate
Current positive angle in UCS: ANGDIR=counterclockwise ANGBASE=0
1 found
Specify base point:
Specify rotation angle or [Copy/Reference] <0>:
Command: l
LINE Specify first point:
Specify next point or [Undo]: 24
Specify next point or [Undo]:
Specify next point or [Close/Undo]:
** STRETCH **
Specify stretch point or [Base point/Copy/Undo/eXit]:
Command: l
LINE Specify first point:
Specify next point or [Undo]:
Specify next point or [Undo]:
Command: l
LINE Specify first point:
Specify next point or [Undo]:
Specify next point or [Undo]: stretch point or [Base point/Copy/Undo/eXit]:
Command: l
LINE Specify first point:
Specify next point or [Undo]: 10
Specify next point or [Undo]:
Specify next point or [Close/Undo]:
Command: l
LINE Specify first point:
Specify next point or [Undo]: 140
Specify next point or [Undo]:
Specify next point or [Close/Undo]:
Command: l
LINE Specify first point:
Specify next point or [Undo]: 76
Specify next point or [Undo]:
Specify next point or [Close/Undo]:
Command: l
LINE Specify first point:
Specify next point or [Undo]: 15
Specify next point or [Undo]:
Specify next point or [Close/Undo]:

Command: l
LINE Specify first point:
Specify next point or [Undo]: 116
Specify next point or [Undo]:
Command: Specify opposite corner:
Command: _trim
Current settings: Projection=UCS, Edge=None
Select cutting edges ...
Select objects or <select all>:
Select object to trim or shift-select to extend or
[Fence/Crossing/Project/Edge/eRase/Undo]: Specify opposite corner:
Select object to trim or shift-select to extend or
[Fence/Crossing/Project/Edge/eRase/Undo]:
Command: l
LINE Specify first point:
Specify next point or [Undo]: 32
Specify next point or [Undo]: 64
Specify next point or [Close/Undo]:
Specify next point or [Close/Undo]:
Command: _trim
Current settings: Projection=UCS, Edge=None
Select cutting edges ...
Select objects or <select all>:
Select object to trim or shift-select to extend or
[Fence/Crossing/Project/Edge/eRase/Undo]:
Select object to trim or shift-select to extend or
[Fence/Crossing/Project/Edge/eRase/Undo]:
Command: l
LINE Specify first point:
Specify next point or [Undo]: 28
Specify next point or [Undo]:
Specify next point or [Close/Undo]:
Command: _move 1 found
Specify base point or [Displacement] <Displacement>: Specify second point or
<use first point as displacement>:
Command: _trim
Current settings: Projection=UCS, Edge=None
Select cutting edges ...
Select objects or <select all>:
Select object to trim or shift-select to extend or
[Fence/Crossing/Project/Edge/eRase/Undo]:
Command: _trim
Current settings: Projection=UCS, Edge=None
Select cutting edges ...
Select objects or <select all>:
Select object to trim or shift-select to extend or
[Fence/Crossing/Project/Edge/eRase/Undo]:
Command:
Command: _.erase 1 found
Command: _qsave

Specify next point or [Undo]:
Specify next point or [Close/Undo]:
Command: l
LINE Specify first point:
Specify next point or [Undo]: 27
Specify next point or [Undo]:
Specify next point or [Close/Undo]:
** STRETCH **
Specify stretch point or [Base point/Copy/Undo/eXit]: *Cancel*
Command: _erase 1 found
Command: Specify opposite corner:
Command: _mirror 3 found
Specify first point of mirror line: Specify second point of mirror line:
Erase source objects? [Yes/No] <N>:
Command: _bhatch
Select objects or [picK internal point/remove Boundaries]:Specify opposite
corner: 47 found
Select objects or [picK internal point/remove Boundaries]:
Pick internal point or [Select objects/remove Boundaries]: Selecting
everything...
Selecting everything visible...
Analyzing the selected data...
Analyzing internal islands...
Pick internal point or [Select objects/remove Boundaries]:
Analyzing internal islands...
Command: _dimlinear
Specify first extension line origin or <select object>:
Specify second extension line origin:
Specify dimension line location or
[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:
Dimension text = 110
Command:
DIMLINEAR
Specify first extension line origin or <select object>:
Specify second extension line origin:
Specify dimension line location or
[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:
Command: _dimradius
Select arc or circle:
Dimension text = 7
Specify dimension line location or [Mtext/Text/Angle]:
Command: _dimdiameter
Select arc or circle:
Dimension text = 7
Specify dimension line location or [Mtext/Text/Angle]:
Command: _dimlinear
Specify first extension line origin or <select object>:
Specify second extension line origin:
Specify dimension line location or
[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 76

Command:

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 148

Command:

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 125.63

Command:

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 62.35

Command: _dimlinear

Specify first extension line origin or <select object>:

Select object to dimension:

Command: _dimradius

Select arc or circle:

Dimension text = 4

Specify dimension line location or [Mtext/Text/Angle]:

Command: _dimdiameter

Select arc or circle:

Dimension text = 48

Specify dimension line location or [Mtext/Text/Angle]:

Command: _dimradius

Select arc or circle:

Dimension text = 4

Specify dimension line location or [Mtext/Text/Angle]:

Command: _dimdiameter

Select arc or circle: *Cancel*

Command: c

CIRCLE Specify center point for circle or [3P/2P/Ttr (tan tan radius)]:

Specify radius of circle or [Diameter] <24.0000>:

Command: _dimdiameter

Select arc or circle:

Dimension text = 100

Specify dimension line location or [Mtext/Text/Angle]:

Command: _.erase 1 found

Dimension disassociated.

Command: _dimdiameter

Select arc or circle: *Cancel*

Command: `_dimlinear`
Specify first extension line origin or <select object>:
Specify second extension line origin:
Specify dimension line location or
[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:
Dimension text = 78

Command:
DIMLINEAR
Specify first extension line origin or <select object>:
Specify second extension line origin:
Specify dimension line location or
[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:
Dimension text = 99

** STRETCH **
Specify stretch point or [Base point/Copy/Undo/eXit]:

Command: `_dimlinear`
Specify first extension line origin or <select object>:
Specify second extension line origin:
Specify dimension line location or
[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:
Dimension text = 72

Command: `_dimlinear`
Specify first extension line origin or <select object>:
Specify second extension line origin:
Specify dimension line location or
[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:
Dimension text = 133

DIMLINEAR
Specify first extension line origin or <select object>:
Specify second extension line origin:
Specify dimension line location or
[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:
Dimension text = 126

Command:
DIMLINEAR
Specify first extension line origin or <select object>:
Specify second extension line origin:
Specify dimension line location or
[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Command:
DIMLINEAR
Specify first extension line origin or <select object>:
Specify second extension line origin:
Specify dimension line location or
[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:
Dimension text = 140

Command:
DIMLINEAR
Specify second extension line origin:
Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 10

Command:

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 88

Command:

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 117

Command:

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Command:

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 80

Command: `_dimdiameter`

Select arc or circle:

Dimension text = 48

Specify dimension line location or [Mtext/Text/Angle]:

Command: `_dimlinear`

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 64

Command:

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 55

Command:

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or
[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 44

Command:

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 13

Command:

DIMLINEAR

Specify first extension line origin or <select object>:

Specify second extension line origin:

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 6

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