

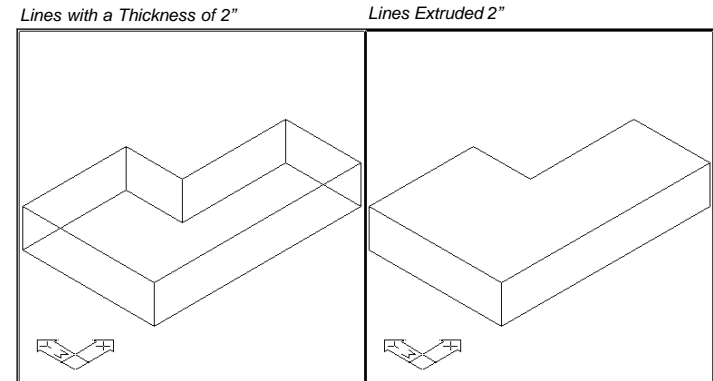


Chapter 12
Solids

Extrude 12.1

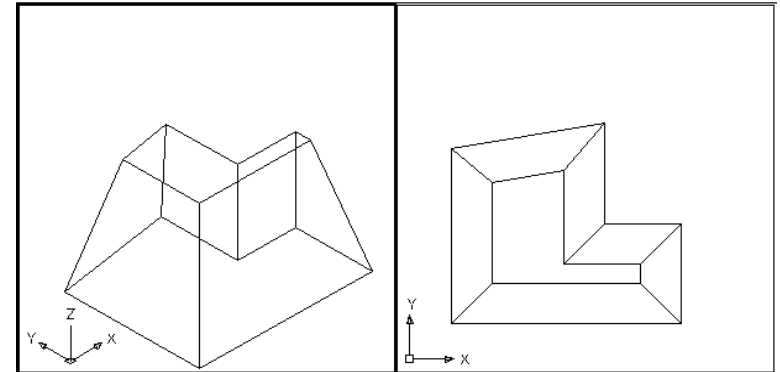
Creates unique solid primitives by extruding existing two-dimensional objects. You can extrude multiple objects with EXTRUDE.

1. **Choose** Draw, Solids, Extrude.
or
2. **Type** EXTRUDE at the command prompt.
Command: **extrude**
Current wire frame density: ISOLINES=4
Select objects: **pick objects**
Select objects: **enter**
Specify height of extrusion or [Path]: **4**
Specify angle of taper for extrusion <0>: **enter**



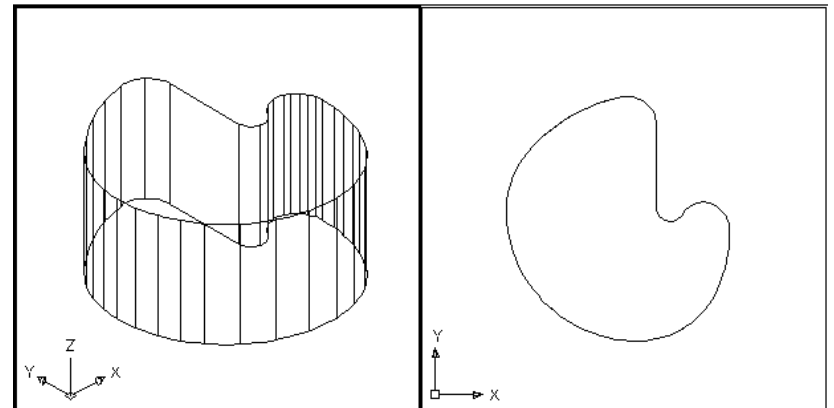
Extrude with Taper 12.2

1. **Choose** Draw, Solids, Extrude.
or
2. **Type** EXTRUDE at the command prompt.
Command: **extrude**
Current wire frame density: ISOLINES=4
Select objects: **pick objects**
Select objects: **enter**
Specify height of extrusion or [Path]: **3**
Specify angle of taper for extrusion <0>: **15**



Extrude Curves 12.3

1. **Choose** Draw, Solids, Extrude.
or
2. **Type** EXTRUDE at the command prompt.
Command: **extrude**
Current wire frame density: ISOLINES=4
Select objects: **pick curved pline**
Select objects: **enter**
Specify height of extrusion or [Path]: **3**
Specify angle of taper for extrusion <0>: **0**

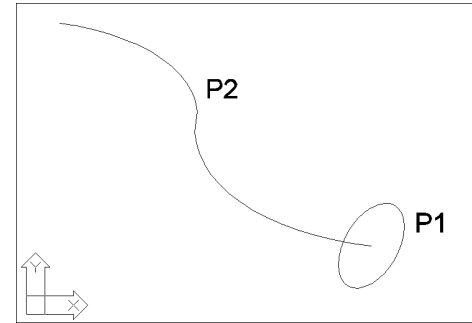


Extrude Along a Path 12.4

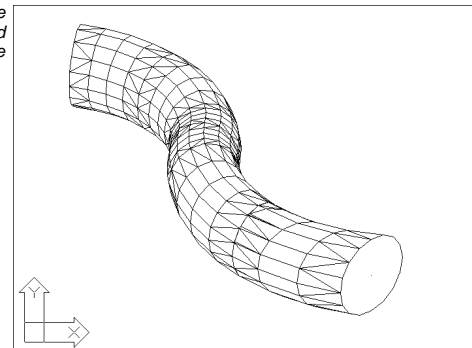
EXTRUDE also creates solids by extruding two-dimensional objects (profiles) along a specified path.

1. **Choose** Draw, Solids, Extrude.
or
2. **Type** EXTRUDE at the command prompt.
Command: **extrude**
Current wire frame density: ISOLINES=4
Select objects: **P1**
Select objects: **enter**
Specify height of extrusion or [Path]: **p**
Select extrusion path: **P2**

*Circle Extruded
Along a Path*



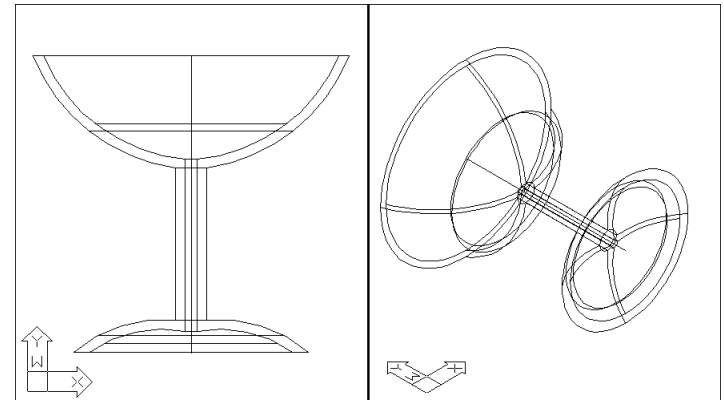
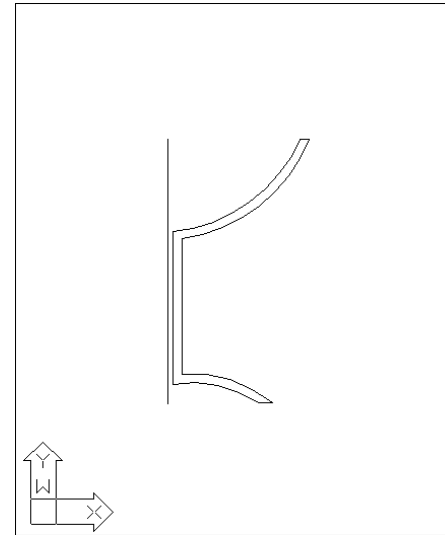
*Hidden Line
Removal of Extruded
Circle*



Revolve 12.5

Creates a composite region or solid by addition.

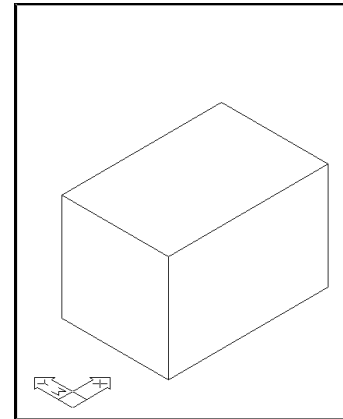
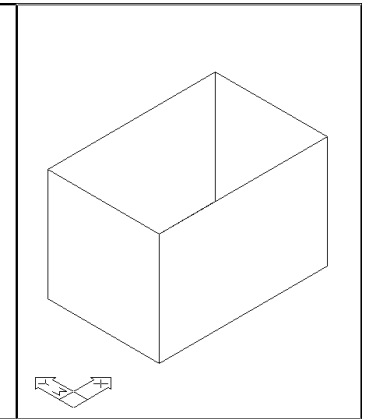
1. **Choose** Draw, Solids, Revolve
or
2. **Type** REVOLVE at the command prompt.
Command: **revolve**
Current wire frame density: ISOLINES=4
Select objects: **pick profile**
Select objects: **enter**
Specify start point for axis of revolution or
define axis by [Object/X (axis)/Y (axis)]: **o**
Select an object: **pick axis**
Specify angle of revolution <360>: **enter**



Box Solid 12.6

Creates a three-dimensional solid box.

1. **Choose** Draw, Solids, Box.
or
2. **Type** BOX at the command prompt
Command: **box**
Specify corner of box or [Center] <0,0,0>: **pick corner**
Specify corner or [Cube/Length]: **pick opposite corner**
Specify height: **2**

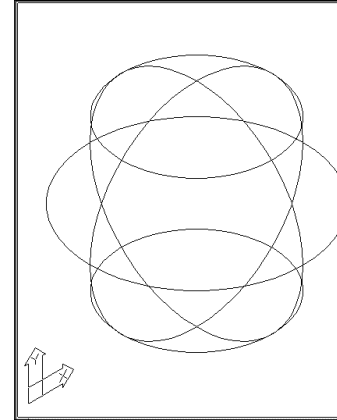
Solid Box*Lines with a Thickness*

Sphere 12.7

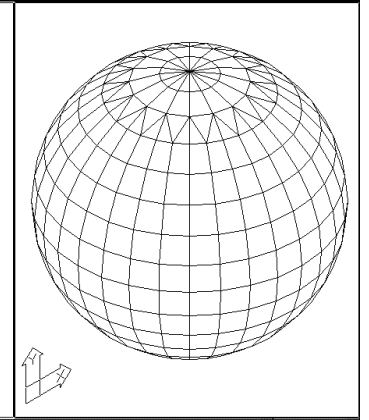
Creates a three-dimensional solid sphere.

1. **Choose** Draw, Solids, Sphere.
or
2. **Type** SPHERE at the command prompt.
Command: **sphere**
Current wire frame density: ISOLINES=4
Specify center of sphere <0,0,0>: **pick point**
Specify radius of sphere or [Diameter]: **2**

Sphere



Sphere with Hidden Lines

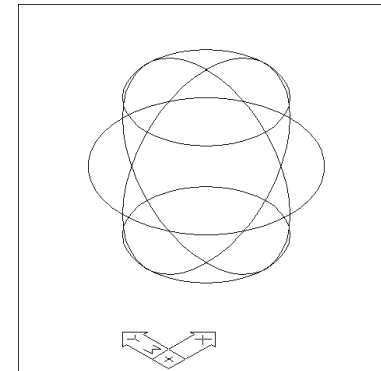


Isolines 12.8

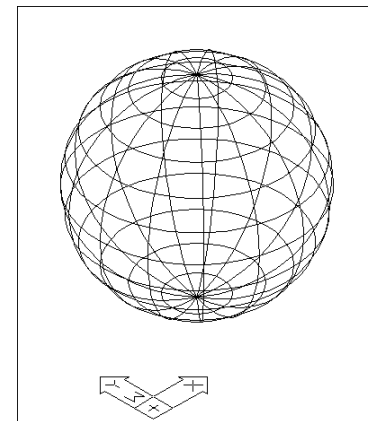
Specifies the number of isolines per surface on objects.
Valid integer values are from 0 to 2047.

1. **Type** ISOLINES at the command prompt.
Command: ISOLINES
Enter new value for ISOLINES <4>: 15

sphere with 4 isolines



sphere with 15 isolines

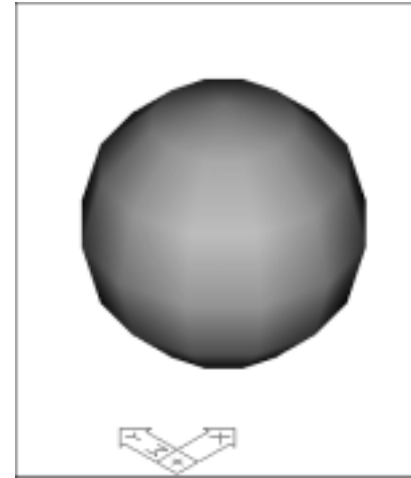


Facetres 12.9

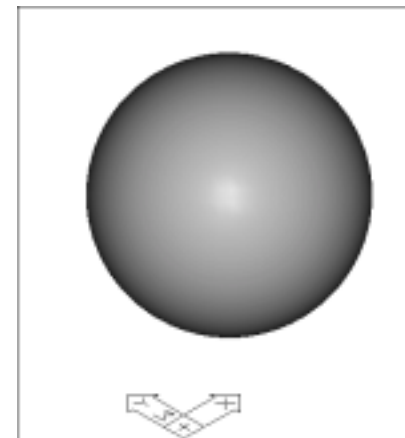
Adjusts the smoothness of shaded and rendered objects and objects with hidden lines removed. Valid values are from 0.01 to 10.0.

1. **Type** FACETRES at the command prompt.
 Command: FACETRES
 Enter new value for FACETRES <.1000>: **5**

sphere with facetres 0.1



sphere with facetres 5

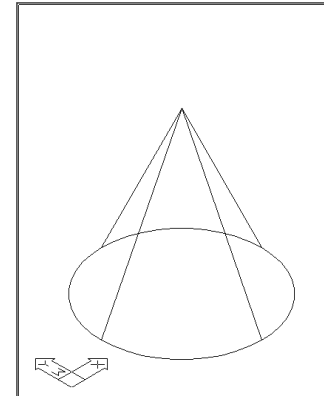


Cone 12.10

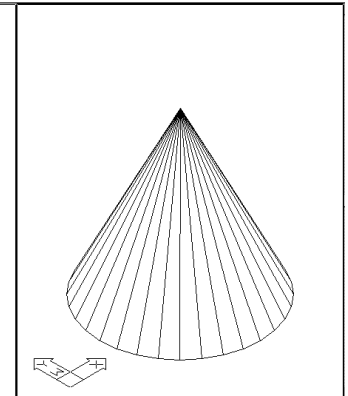
Creates a three-dimensional solid cone.

1. **Choose** Draw, Solids, Cone.
or
2. **Type** CONE at the command prompt.
Command: **cone**
Current wire frame density: ISOLINES=4
Specify center point for base of cone or [Elliptical]
<0,0,0>: **pick point**
Specify radius for base of cone or [Diameter]: **2**
Specify height of cone or [Apex]: **4**

Cone



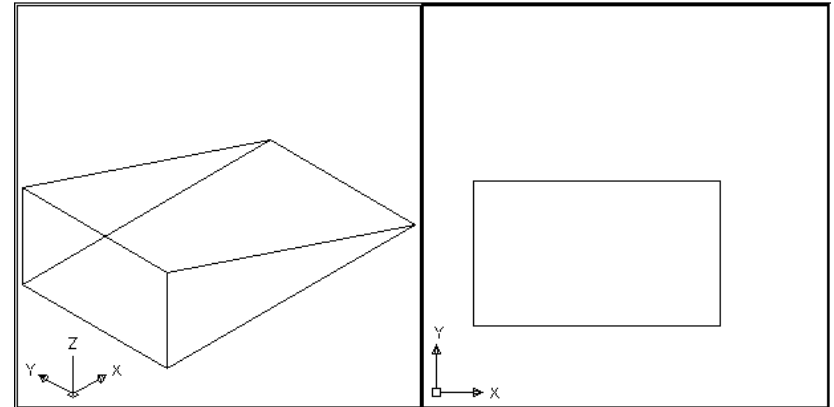
Cone with Hidden Lines



Wedge12.11

Creates a three-dimensional solid wedge.

1. **Choose** Draw, Solids, Wedge.
or
2. **Type** WEDGE at the command prompt.
Command: **_wedge**
Specify first corner of wedge or [CEnter] <0,0,0>: **pick**
Specify corner or [Cube/Length]: **pick**
Specify height: **2**



Torus 12.12

Creates a donut-shaped solid.

1. **Choose** Draw, Solids, Torus.

or

2. **Type** TORUS at the command prompt.

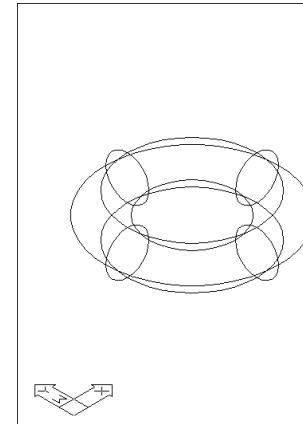
Command: **torus**

Current wire frame density: ISOLINES=4

Specify center of torus <0,0,0>: **pick point**

Specify radius of torus or [Diameter]: **6**

Specify radius of tube or [Diameter]: **2**

Torus*Torus with Hidden Lines*