



---

**Chapter 10**  
**3D Surfaces**

---

## 3DBox 10.1

1. **Choose** Draw, Surfaces, 3D Surfaces...
2. **Pick** the box from the dialog menu.  
or
3. **Type** AI\_BOX at the command prompt.

Command: **ai\_box**

Initializing... 3D Objects loaded.

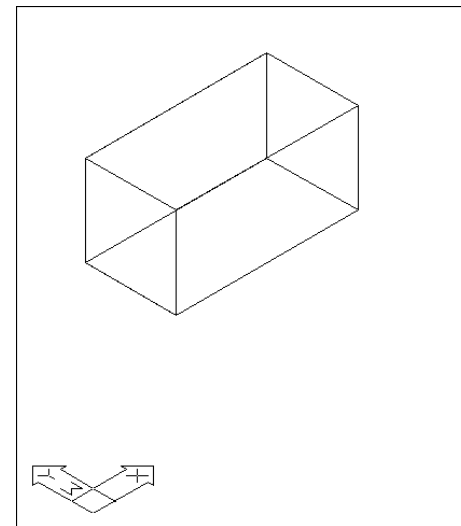
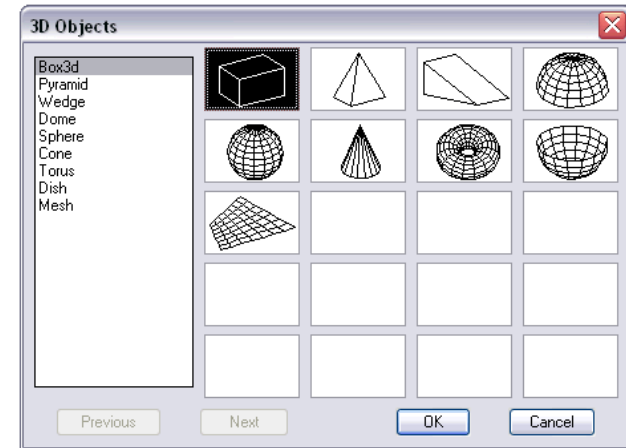
Corner of box: **pick**

Specify length of box: **4**

Specify width of box or [Cube]: **2**

Specify height of box: **2**

Specify rotation angle of box about the Z axis or [Reference]: **0**



## Pyramid 10.2

1. **Choose** Draw, Surfaces, 3D Surfaces...
2. **Pick** the pyramid from the dialog menu.  
or
3. **Type** AI\_PYRAMID at the command prompt.

Command: **ai\_pyramid**

Specify first corner point for base of pyramid: **pick**

Specify second corner point for base of pyramid:  
<Ortho on> **4**

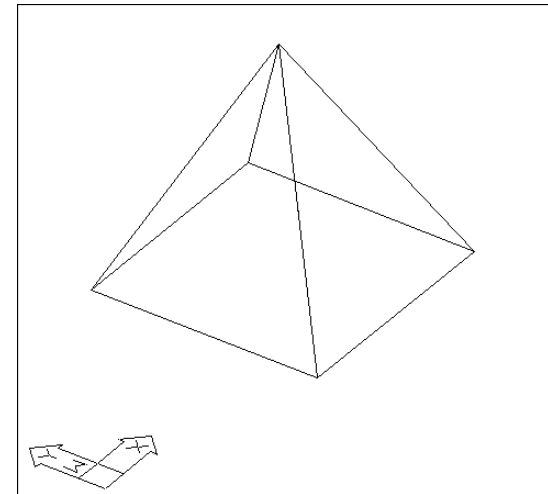
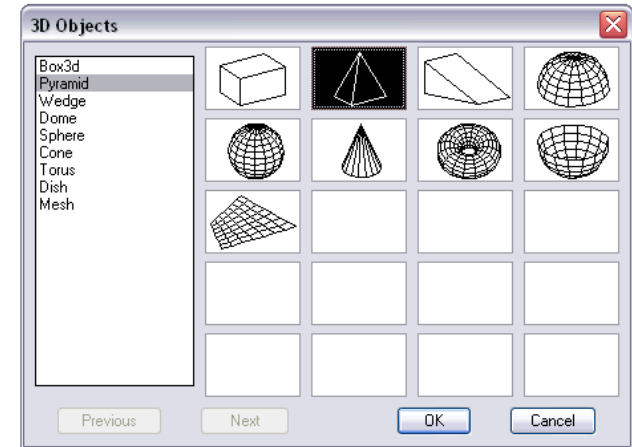
Specify third corner point for base of pyramid: **4**

Specify fourth corner point for base of pyramid or  
[Tetrahedron]: **4**

Specify apex point of tetrahedron or [Top]: **.xy**

of pick

(need Z): **4**



### Wedge 10.3

1. **Choose** Draw, Surfaces, 3D Surfaces...
2. **Pick** the wedge from the dialog menu.  
or
3. **Type** AI\_WEDGE at the command prompt.

Command: **ai\_wedge**

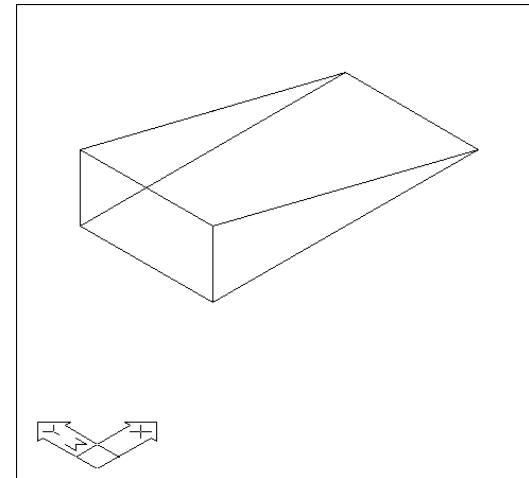
Specify corner point of wedge: **pick**

Specify length of wedge: **4**

Specify width of wedge: **2**

Specify height of wedge: **1**

Specify rotation angle of wedge about the Z axis: **0**



## Dome 10.4

1. **Choose** Draw, Surfaces, 3D Surfaces...
2. **Pick** the dome from the dialog menu.  
or
3. **Type** AI\_DOME at the command prompt.

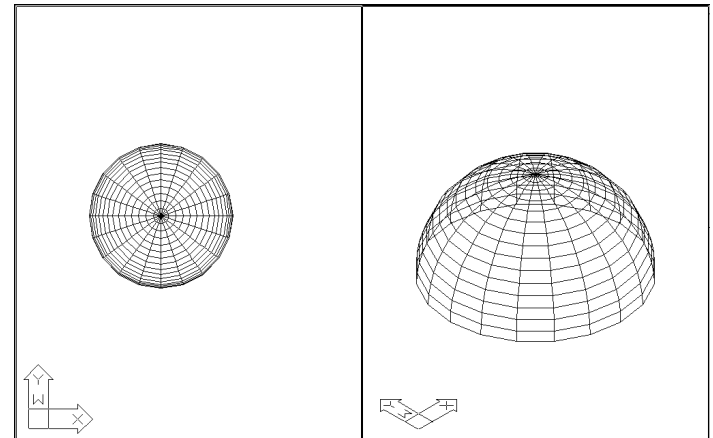
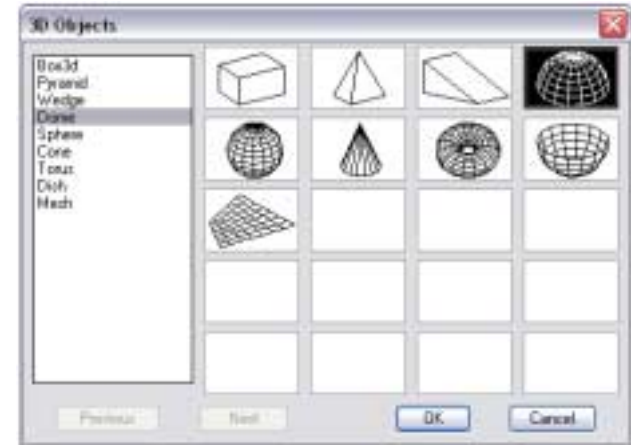
Command: **ai\_dome**

Specify center point of dome: **pick**

Specify radius of dome or [Diameter]: **3**

Enter number of longitudinal segments for surface of dome <16>: **20**

Enter number of latitudinal segments for surface of dome <8>: **10**



## Sphere 10.5

1. **Choose** Draw, Surfaces, 3D Surfaces...
2. **Pick** the sphere from the dialog menu.  
or
3. **Type** AI\_SPHERE at the command prompt.

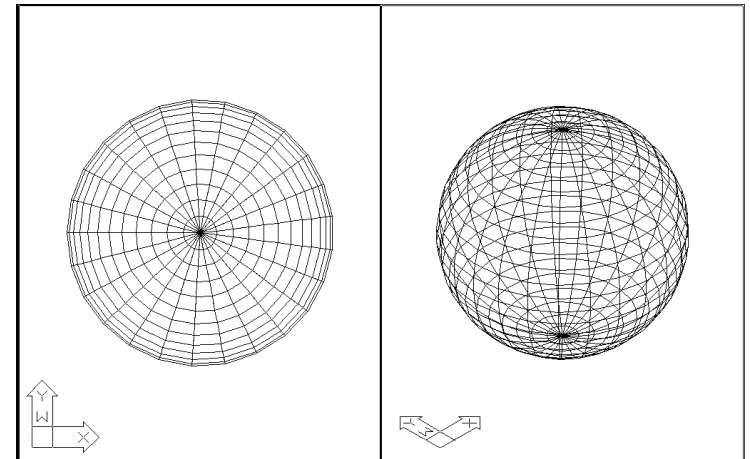
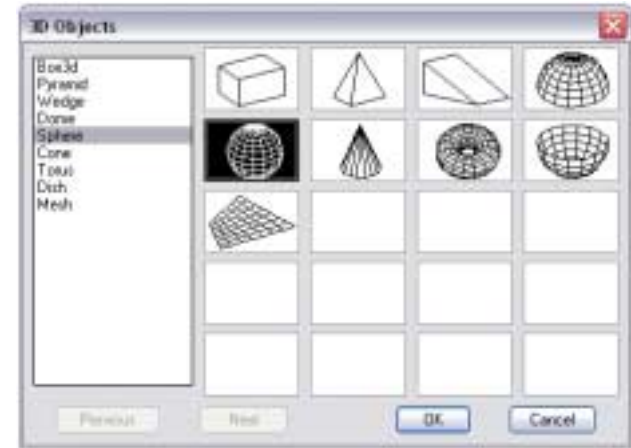
Command: **ai\_sphere**

Specify center point of sphere: **pick**

Specify radius of sphere or [Diameter]: **3**

Enter number of longitudinal segments for surface of sphere <16>: **25**

Enter number of latitudinal segments for surface of sphere <16>: **25**



## Cone 10.6

1. **Choose** Draw, Surfaces, 3D Surfaces...
2. **Pick** the cone from the dialog menu.  
or
3. **Type** AI\_CONE at the command prompt.

Command: **ai\_cone**

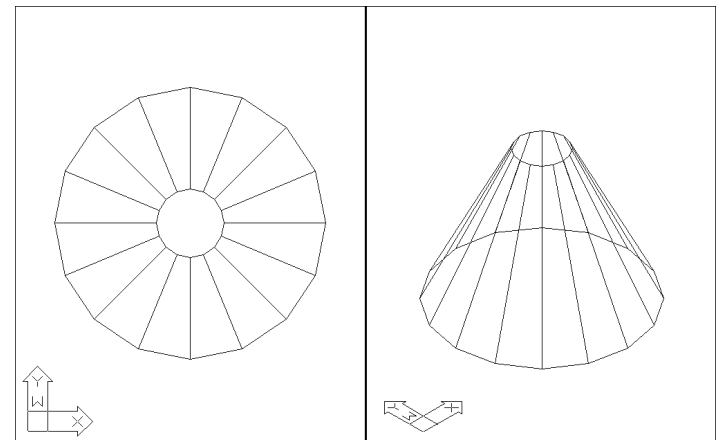
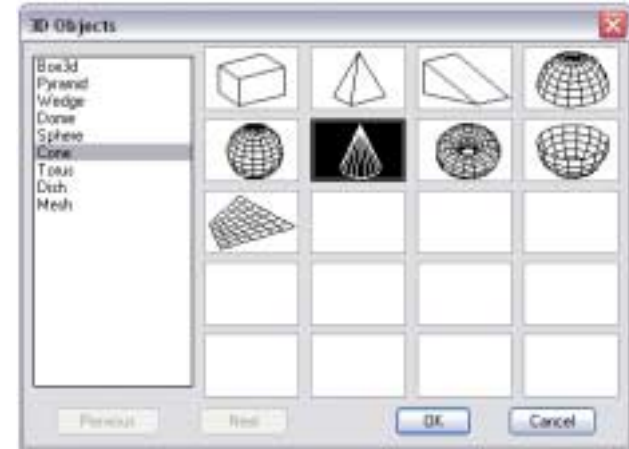
Specify center point for base of cone: **pick**

Specify radius for base of cone or [Diameter]: **2**

Specify radius for top of cone or [Diameter] <0>: **5**

Specify height of cone: **3**

Enter number of segments for surface of cone <16>:  
**enter**



## Torus 10.7

1. **Choose** Draw, Surfaces, 3D Surfaces...
2. **Pick** the torus from the dialog menu.  
or
3. **Type** AI\_TORUS at the command prompt.

Command: **ai\_torus**

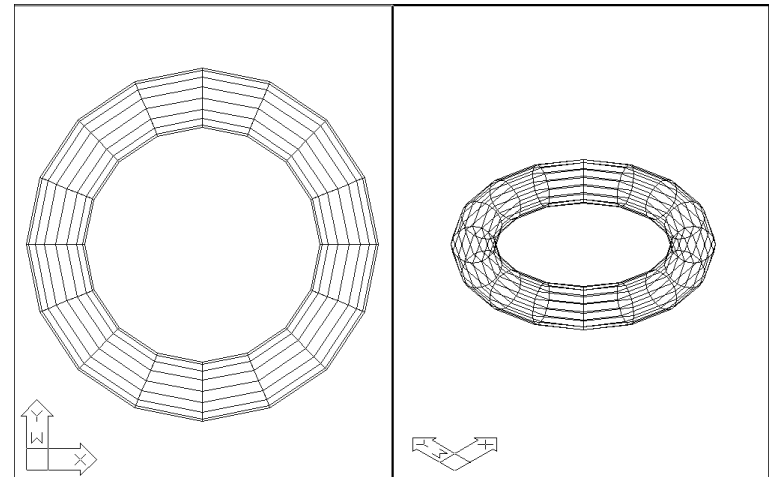
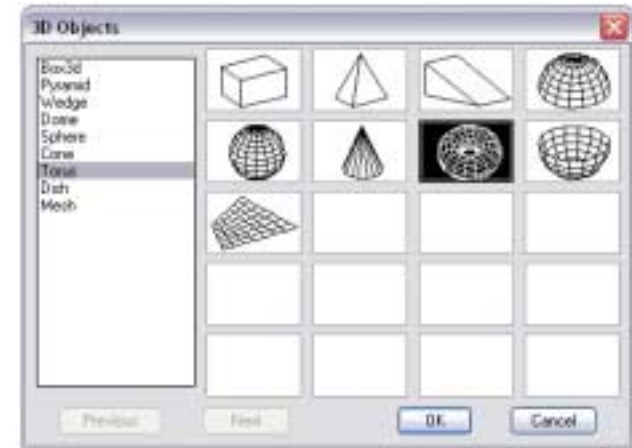
Specify center point of torus: **pick**

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

Specify radius of tube or [Diameter]: **1**

Enter number of segments around tube circumference  
<16>: **enter**

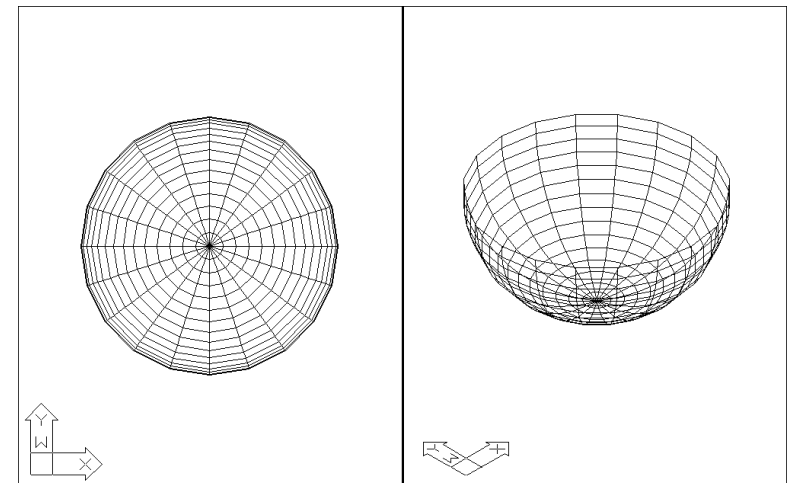
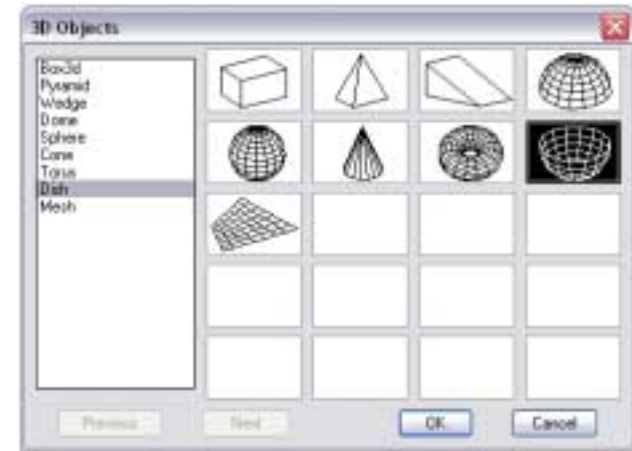
Enter number of segments around torus circumference  
<16>: **enter**





## Dish 10.8

1. **Choose** Draw, Surfaces, 3D Surfaces...
2. **Pick** the dish from the dialog menu.  
or
3. **Type** AI\_DISH at the command prompt.  
Command: **ai\_dish**  
Specify center point of dish: **pick**  
Specify radius of dish or [Diameter]: **3**  
Enter number of longitudinal segments for surface of dish  
<16>: **20**  
Enter number of latitudinal segments for surface of dish  
<8>: **15**



**Mesh 10.9**

Creates a planar mesh whose M and N sizes determine the number of lines drawn in each direction along the mesh.

1. **Type** `ai_mesh` at the command prompt.

Command: **ai\_mesh**

Initializing... 3D Objects loaded.

Specify first corner point of mesh: **1,1,1**

Specify second corner point of mesh: **4,1,1**

Specify third corner point of mesh: **4,4,2**

Specify fourth corner point of mesh: **1,4,1**

Enter mesh size in the M direction: **20**

Enter mesh size in the N direction: **10**

