#### **Item Creation tools**

# Line [I]

Drag a single straight line with vertices (endpoints only).

#### Tool Info palette

Length (data field and button)

Make numeric entry to set line length precisely.

Click on the button to toggle "on/off".

Angle (2 data fields and 3 radio buttons)

Click a radio button to turn "on".

#### Fixed

Make a numeric entry (degrees) to precisely set the angle of the line.

#### Constraint

Make a numeric entry (degrees) to precisely constrain the drag operation described above.

# Polygon (rectangle icon) [p]

Drag a polygon (minimum 3 sided).

## Tool Info palette

Sides (data field)

Make numeric entry (positive whole numbers, minimum 3) to determine how many sides the polygon will have.

Height/Width (2 data fields and 2 buttons)

Make numeric entry (Units) to precisely set the Height/Width. Click on a button to toggle "on/off".

## Rounded Rectangle

Drag a rectangle with rounded corners.

#### Tool Info palette

Width/Height (2 data fields and 2 buttons)

Make numeric entry (Units) to precisely set the Width/Height.

Radius (data field)

Make numeric entry (Units) to set the 4 corner radii.

## Spline Surface

Drag a rectangular, flat spline surface.

# Tool Info palette

Spacing Per Section (data field)

Make numeric entry (Units) to determine the "grid" size of the surface.

#### As Lines (button)

Makes each intersection in the grid a "sharp" corner vertex (defaults to each intersection in the grid is a "smooth curve" vertex).

# Spline [b]

Click and/or drag to set connected vertices (sharp corners and smooth curves).

#### Ellipse icon

Drag an ellipse. (Hold Shift key to constrain to a circle.)

#### Tool Info palette

Circle Radius (data field)

Make numeric entry (Units) to constrain to a precisely sized circular ellipse.

Click on the button to toggle "on/off".

# 90° Arc [a]

Drag a 90° elliptical arc. (Hold Shift key to constrain to 90° circular arc.)

#### Tool Info palette

Radius (data field)

Make numeric entry (Units) to constrain to a precisely sized circular arc.

Click on the button to toggle "on/off".

#### Circular Arc

Drag from center to edge to determine radius of arc; release mouse, then drag around circle (intuitive interface) to determine angle of arc; click to create arc.

#### Tool Info palette

Center to Start/Start to Center (2 radio buttons)

Determines the direction you drag to set the radius of arc.

Click a radio button to turn "on".

Radius/Start/End (data display only)

Displays info to help you to create the size arc you want.

Radius (Units); Start/End (degrees).

# Text ("T" icon)

Enter character(s) in Tool Info data field; drag in View window to determine text size; click Engage button in Tool Info palette.

Hold shift key to ensure proportional sizing.

## Tool Info palette

Fonts (pull-down menu)

Displays TrueType fonts installed in your System Folder.

(Type 1 font character strings must be Imported (File menu).)

Click-hold to expose the list; drag down the list to choose a font; release the mouse to select the font.

#### data field

Enter characters in the data field.

#### slider

Tracking (letter/word spacing). Center is default spacing; slide to right increases spacing; slide to left decreases spacing.

Engage (button)

Click to make the text 2D contours.

#### 3D Primitive tools

In each instance, drag to intuitively create the volumetric shape.

Each Primitive has its own Tool Info palette for precise creation of the shape.

Double-click on a Primitive or on its name in the Groups palette to access the item's Information dialog box (to precisely edit the dimensions of the Primitive). Click on Convert to Spline Mesh button to convert the Primitive data type to a Spline Mesh data type (in preparation to perform vertex/surface operations -- DigitalClay).

## Cube

#### Tool Info palette

Height/Width/Depth (3 data fields and 3 buttons)

Make numeric entry (Units) to determine the precise size of the cube. Click on a button to toggle "on/off".

# Cube Information dialog box

Convert to Spline Mesh (button)

#### Prism

#### Tool Info palette

Sides (data field)

Make numeric entry (positive whole numbers, minimum 3) to determine how many sides the prism will have.

Height/Width/Depth (3 data fields and 3 buttons)

Make numeric entry (Units) to determine the precise size of the prism.

Click on a button to toggle "on/off".

## Prism Information dialog box

Caps (two check boxes)

Determines whether or not the Prism is end-capped or not.

Sides (data field)

Make an entry (whole number >2) to determine the number of "faces" on the Prism.

Secondary (one data field)

Length/Height -- make an entry (Units) to precisely set the length/height of the Prism.

Primary (two data fields)

Vertical Radius -- make an entry (Units) to precisely set this dimension of the Prizm.

Horizontal Radius -- make an entry (Units) to precisely set this dimension of the Prism.

Base X, Y, Z (three data fields)

Make entries (Units) to precisely set the base dimensions of the Prism.

# **Pyramid**

#### Tool Info palette

Sides (data field)

Make numeric entry (positive whole numbers, minimum 3) to determine how many sides the pyramid will have.

Height/Width/Depth (3 data fields and 3 buttons)

Make numeric entry (Units) to determine the precise size of the pyramid. Click on a button to toggle "on/off".

#### Pyramid Information dialog box

Caps (two check boxes)

Determines whether or not the Pyramid is end-capped or not.

Sides (data field)

Make an entry (whole number >2) to determine the number of "faces" on the Pyramid.

Secondary (one data field)

Length/Height -- make an entry (Units) to precisely set the length/height of the Pyramid.

Primary (two data fields)

Vertical Radius -- make an entry (Units) to precisely set this dimension of the Pyramid.

Horizontal Radius -- make an entry (Units) to precisely set this dimension of the Pyramid.

Base X, Y, Z (three data fields)

Make entries (Units) to precisely set the base dimensions of the Pyramid.

#### Cone

## Tool Info palette

Depth (data field and button)

Make numeric entry (Units) to determine the precise distance from center of base to point of the cone.

Click on the button to toggle "on/off".

Radius (data field and button)

Make numeric entry (Units) to determine the precise size of the base of the cone.

Click on the button to toggle "on/off".

# Cone Information dialog box

Caps (two check boxes)

Determines whether or not the Cone is end-capped or not.

Secondary (one data field)

Length/Height -- make an entry (Units) to precisely set the length/height of the Cone.

Primary (two data fields)

Vertical Radius -- make an entry (Units) to precisely set this dimension of the Cone.

Horizontal Radius -- make an entry (Units) to precisely set this dimension of the Cone.

Base X, Y, Z (three data fields)

Make entries (Units) to precisely set the base dimensions of

## Cylinder

the Cone.

# Tool Info palette

Depth (data field and button)

Make numeric entry (Units) to determine the precise distance from end to end of the cylinder.

Click on the button to toggle "on/off".

Radius (data field and button)

Make numeric entry (Units) to determine the precise radius of the cylinder.

Click on the button to toggle "on/off".

# Cylinder Information dialog box

Caps (two check boxes)

Determines whether or not the Cylinder is end-capped or not.

Secondary (one data field)

Length/Height -- make an entry (Units) to precisely set the length/height of the Cylinder.

Primary (two data fields)

Vertical Radius -- make an entry (Units) to precisely set this dimension of the Cylinder.

Horizontal Radius -- make an entry (Units) to precisely set this dimension of the Cylinder.

Base X, Y, Z (three data fields)

Make entries (Units) to precisely set the base dimensions of the Cylinder.

## Sphere

#### Tool Info palette

Radius (data field and button)

Make numeric entry (Units) to determine the precise radius of the sphere. Click on the button to toggle "on/off".

# Cylinder Information dialog box

**Sphere Parameters** 

Center X, Y, Z (data fields)

Make entries (Units) to precisely set the position of the center of the Sphere.

Radius X, Y, Z (data fields)

Make entries (Units) to precisely set the size of the Sphere.

#### **Torus**

## Tool Info palette

Main Radius (data field and button)

Make an entry (Units) to determine the precise distance from the center of the "donut" toward its edge to center of the Minor Radius.

Click on the button to toggle "on/off".

## Minor Radius

Make an entry (Units) to precisely determine half the distance between the outer edge of the "hole" and the outer-most edge of the "donut" Click on the button to toggle "on/off".

#### Torus Information dialog box

Primary (two data fields)

Vertical Radius -- make an entry (Units) to precisely set this dimension of the Torus.

Horizontal Radius -- make an entry (Units) to precisely set this dimension of the Torus.

Secondary (two data fields)

Vertical Radius -- make an entry (Units) to precisely set this dimension of the Torus.

Horizontal Radius -- make an entry (Units) to precisely set this dimension of the Torus.\

Center X, Y, Z (data fields)

Make entries (Units) to precisely set the position of the center of the Torus.