# Chapter 16
More Draw Commands
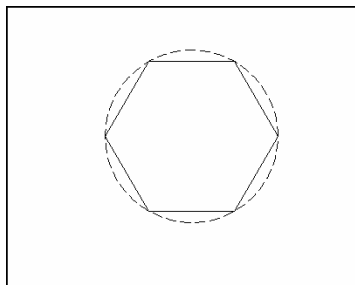
AutoCAD 2D Tutorial

Polygon 16.1

1. **Choose** Draw, Polygon.

   or

2. **Click** the Polygon icon. ⬠

   or

3. **Type** Polygon at the command prompt.

   Command: **POLYGON**

4. **Type** The number of sides for the polygon
   (3-1024)

   Number of sides <default>: **number**

5. **Pick** The center of the polygon. Edge/<Center of polygon>:
   pick

   or

6. **Type** **E** to define the polygon by two edges.

7. **Type** **I** or **C** to place the polygon inside or outside of an
   imaginary circle.

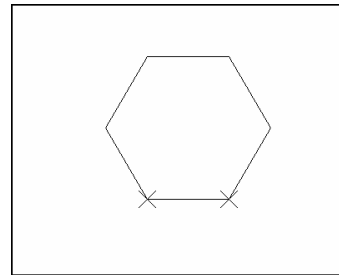   Inscribed in circle/Circumscribed about circle (I/C):

Polygon Inscribed in an
imaginary circle

Polygon drawn with Edge
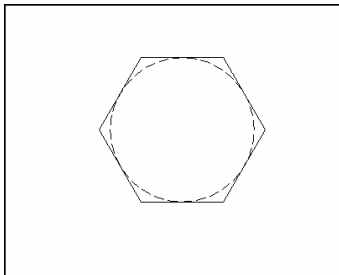
Polygon circumscribed
around an imaginary circle

Rectangle 16.2

1. **Choose** Draw, Rectangle.

   or

2. **Click** the Rectangle icon.

   or

3. **Type** Rectang at the command prompt Command:
   RECTANG Chamfer/Elevation/Fille t/Thickness/Width/

   <First corner>:

4. **Pick** first corner.

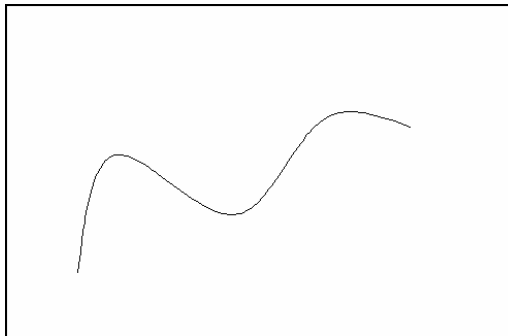5. **Pick** other corner or type coordinates **(i.e. @4,2)**.

Other Corner

First Corner
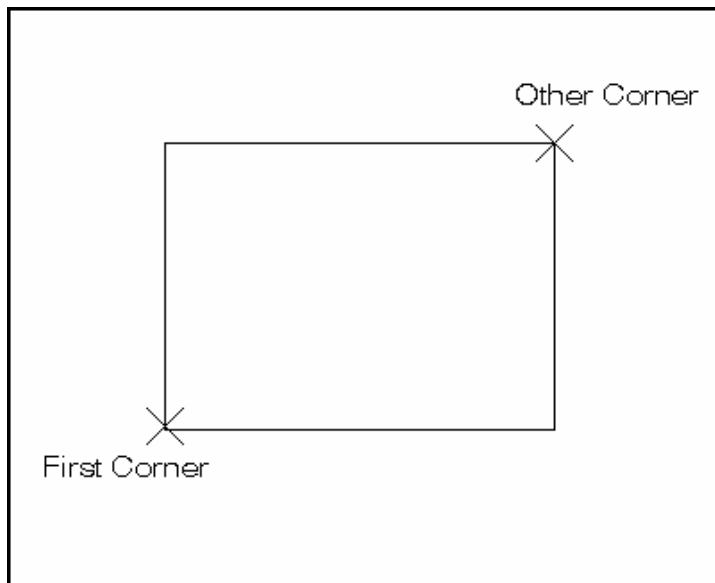
AutoCAD 2D Tutorial

Spline 16.3

The SPLINE command creates a particular type of spline known as a nonuniform rational B-spline (NURBS) curve. A NURBS curve produces a smooth curve between control points
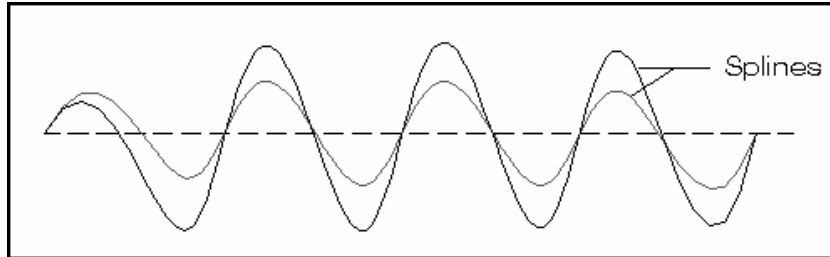
1. **Choose**   Draw, Spline.

        or

2. **Click**   the Spline icon.

        or

3. **Type**   SPLINE at the command prompt

        Command: **SPLINE**

4. **Pick**   A start point for the spline

        Object / <Enter first point>: (**pick point**)

5. **Pick**   Points until you are done drawing splines

        Enter point: (**pick points**)

6. **Press**   Enter or close to complete the spline

7. **Pick**   Starting tangent point for the spline

        Enter start tangent (**pick point**)

8. **Pick**   Ending tangent point for the spline

        Enter end tangent: (**pick point**)
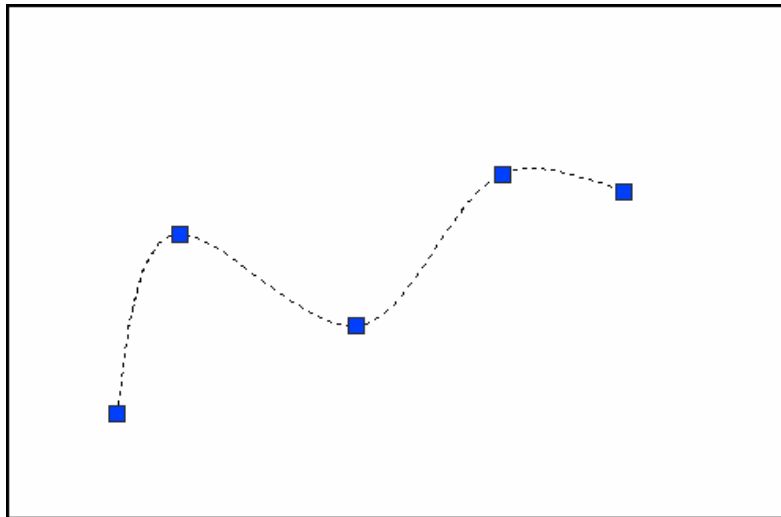
Spline options:

Object	Converts 2D or 3D spline-fit polylines to equivalent Splines
Points	Points that define the spline
Close	Closes a spline.
Fit Tolerance	Allows you to set a tolerance value that creates a smooth spline.

TIP: Refer to AutoCAD online help topic for more information on spline options.

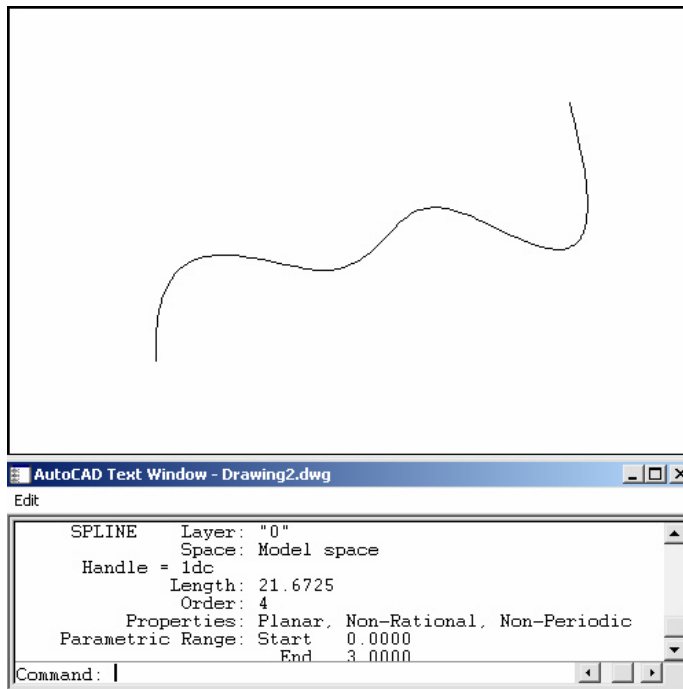# Editing Splines

1. **Choose**   Modify, Object, Spline.

TIP: Drawings containing splines use less memory and disk space than those containing spline-fit polylines of similar shape.

Covert PLINE to Spline 16.4

1. **Draw** a PLINE.

2. **Type** PEDIT to edit the polyline as a spline.

3. **Choose** Draw, Spline.

4. **Type** Object at the command prompt.

5. **Click** once on the polyline to turn it into a spline.


```
AutoCAD Text Window - Drawing2.dwg                           _ □ ×
Edit

    SPLINE     Layer:  "0"                                        ▲
               Space:  Model space
    Handle = 1dc
               Length:  21.6725
                Order:  4
           Properties:  Planar, Non-Rational, Non-Periodic
    Parametric Range:  Start    0.0000
                         End     3 0000                          ▼
Command: |                                        ◄  □  ►
```

TIP: Use the LIST command to determine if an object is a PLINE or SPLINE.

AutoCAD 2D Tutorial

Donut 16.5

Donuts are filled rings or solid-filled circles that actually are closed polylines with width.

1. **Choose** Draw, Donut.

   or

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

   Command: **DONUT**

3. **Type** A value for the inside diameter.

   Inside diameter <last>: **.5**

4. **Type** A value for the outside diameter.

   Outside diameter <last>: **1**

5. **Pick** A point for the center of the donut.

   Center of doughnut: (**point**)
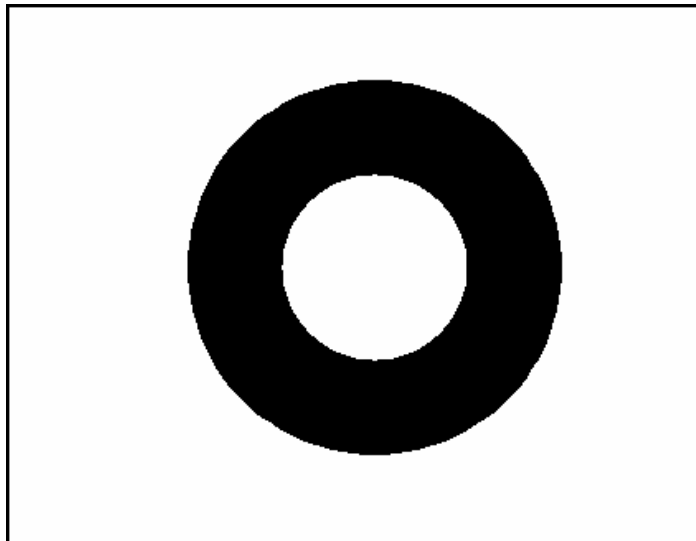
Ellipse 16.6

Creates an ellipse or an elliptical arc.

1. **Choose**   Draw, Ellipse.

   or

2. **Choose**   the Ellipse or Partial Ellipse icon.

   or

3. **Type**   ELLIPSE at the command prompt

   Command: **ELLIPSE**

4. **Type**   One of the following options: Arc/Center/Isocircle /<Axis
   endpoint 1>:

Ellipse options:

|	
Axis endpoint 1	Defines the first axis by two specified endpoints. The angle of the first axis determines the angle of the ellipse. The first axis can define either the major or the minor axis of the ellipse.
Axis endpoint 2:	<Other axis distance> / Rotation: Specify a point or enter a distance
Arc	Creates an elliptical arc. The angle of the first axis determines the angle of the elliptical arc. The first axis can define either the major or the minor axis of the elliptical arc.
Center	Creates the ellipse by a specified center point.
Isocircle	Creates an isometric circle in the current isometric drawing plane.
Rotation	The major axis is now treated as the diameter of a circle that will be rotated a specified amount around the axis. You enter an angle between 0 and 89.4 degrees.

ELLIPSE,
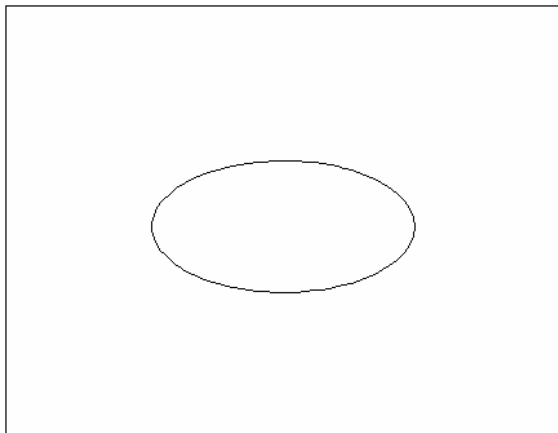*Axis , Eccentricity (Axis Endpoint, Axis Endpoint, Other Axis Distance)*
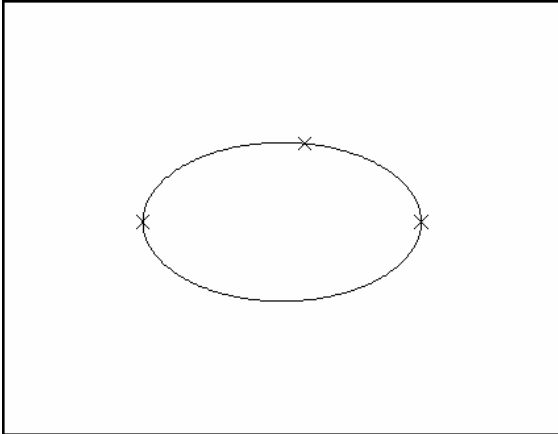
ELLIPSE,
Center, Axis, Axis
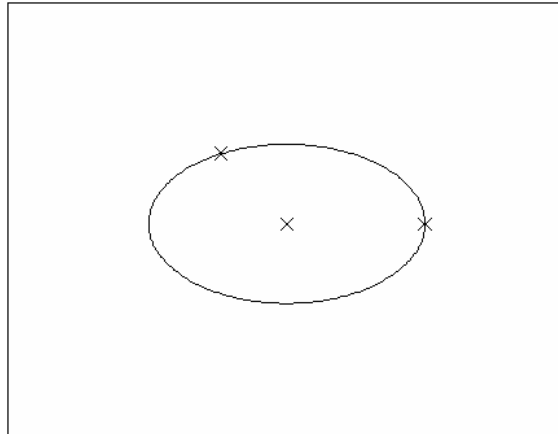
*ELLIPSE,*
Axis Endpoint, Axis Endpoint, Rotation=60

Multilines 16.7

MLINE Command

Creates multiple parallel lines.

1. **Choose**   Draw, Multiline.

             or

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

            Command: **MLINE**

3. **Pick**   A point to start the multiline.

            Justification/Scale/STyle/<From point>: pick point

4. **Pick**   A second point to continue the multiline.

            <To point>: **pick point**

5. **Pick**   The next point to continue drawing multilines.
            Undo/<To point>: pick point

6. **Press**   ENTER to end the mulitline

            Close/Undo/<To point>: press enter or

7. **Type**   C to close the multiline back to the first point.
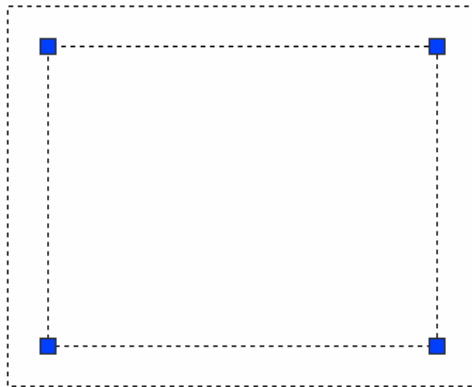   Close/Undo/<To point>: **c**
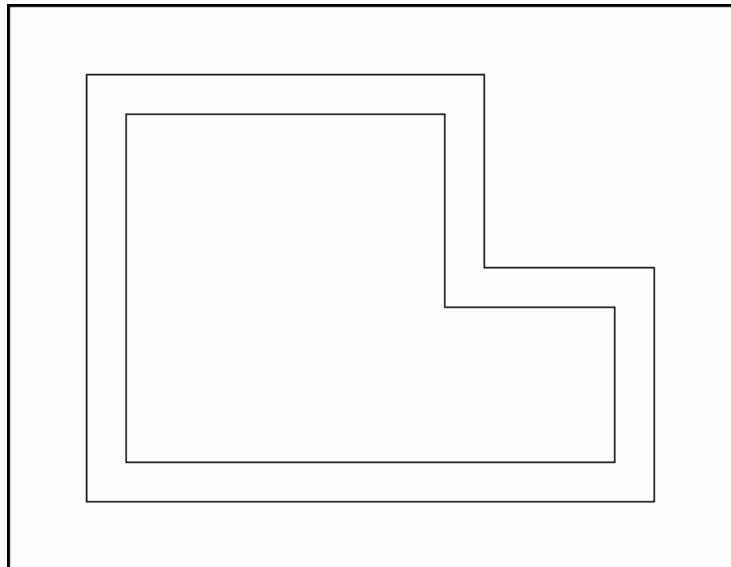
## Multiline Justifications

Top Justification
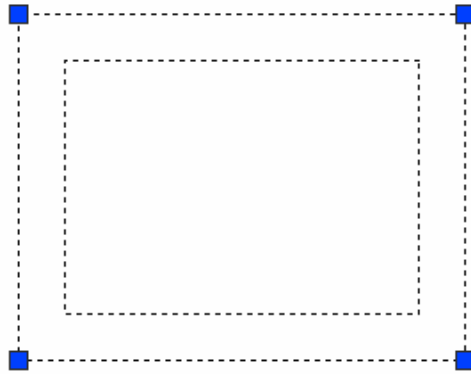
Bottom Justification
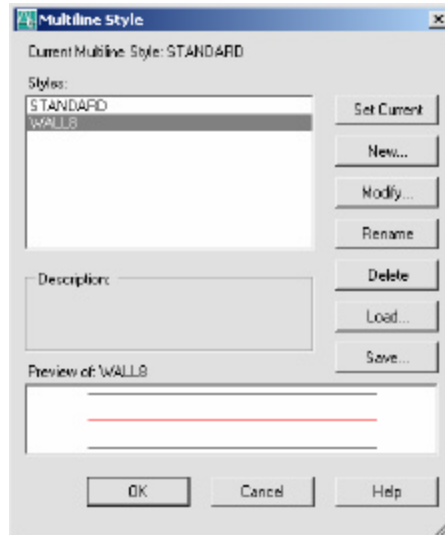
Zero Justification

Multiline Styles

1. **Choose**   Format, Multiline Style...

               or

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

           Command: **MLSTYLE**

3. **Rename**   The existing style called STANDARD to your new style.

4. **Choose**   Element Properties to change the appearance of the multilines.

5. **Choose**   ADD to create the new multiline.
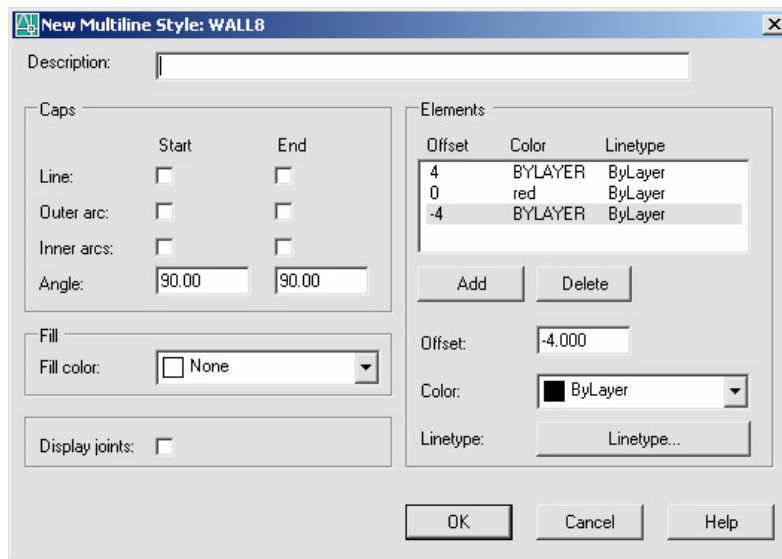
Editing Multilines

1. **Choose**   Modify, Multiline...

   or

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

   Command: **MLEDIT**

3. **Choose**   From one of the mledit options:
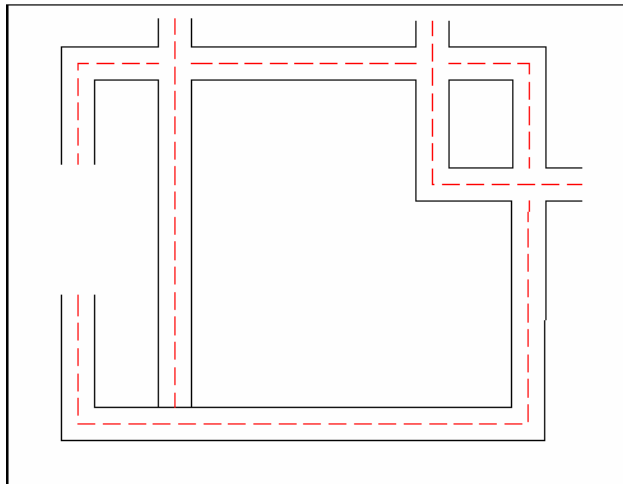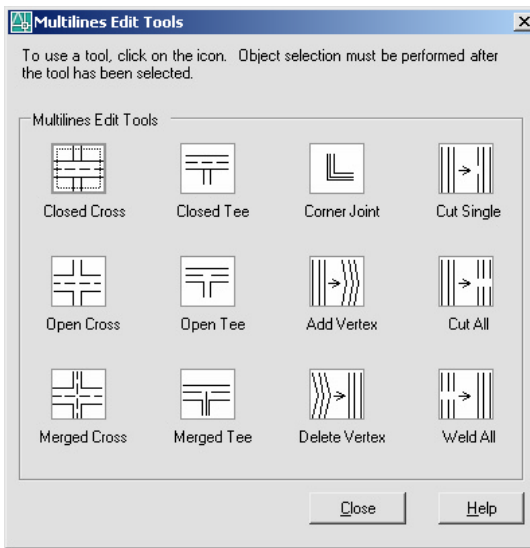
Construction Line and Ray Command 16.8

Creates an infinite line.

1. **Choose** Draw, ConstructionLine

    or

2. **Choose** the XLINE icon. [icon]

    or

3. **Type** XLINE at the command prompt.

    Command: **XLINE**

    Specify a point or [Hor/Ver/Ang/Bisect/Offset]:

Construction Line Options

HOR Creates a horizontal xline passing through a specified point.

VER Creates a vertical xline passing through a specified point

ANG Creates an xline at a specified angle.

BISECT Creates an xline that passes through the selected angle vertex and bisects the angle between the first and second line

OFFSET Creates an xline parallel to another object.
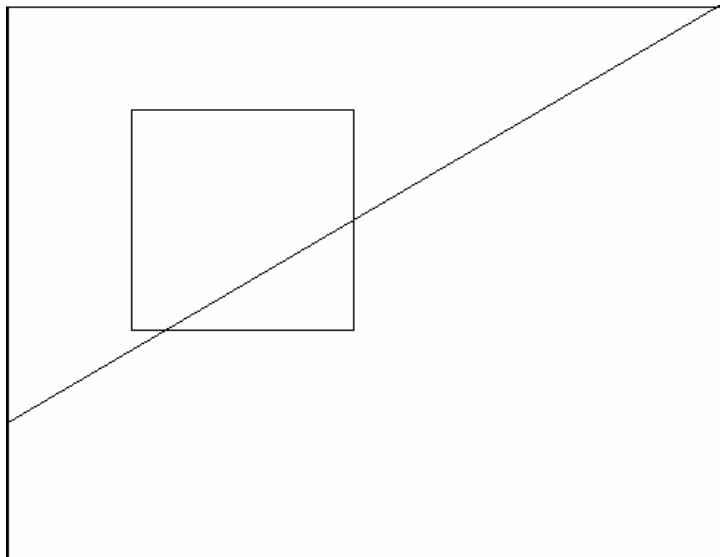
Ray

Creates an infinite line in one direction.

    1.   **Choose**   Draw, RAY

                  or

    2.   **Type**   RAY at the command

                  prompt.

                  Command: **RAY**

                  Specify a point : **(pick through point)**