Chapter 3
Draw Commands

3.1 Line Command

Creates single straight line segments

1.	**Choose**	Draw, Line.

or

2.	**Click**	the Line icon.

or

3.	**Type**	LINE from the command prompt
		Command: **LINE** or **L**
4.	**Press**	ENTER
5.	**Pick**	From point: (**point**)
6.	**Pick**	Specify next point or [Close/Undo]:(**point**)
7.	**Pick**	Specify next point or [Close/Undo]:(**point**)
8.	**Press**	ENTER to end line sequence

or

9.	**Type**	U to undo the last segment
		To point: **U** (undo)

or

10.	**Type**	C to create a closed polygon
		To point : **C** (close)

PICK POINT

PICK POINT

CLOSE
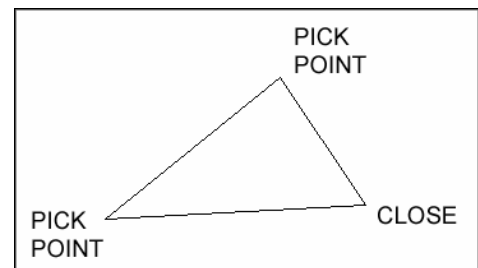
TIPS:

• You can continue the previous line or arc by responding to the From point: prompt with a space or ENTER.

• Choose the right mouse button for the line pop-up menu to appear while in the line command
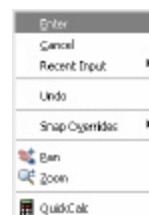
3.2 Cartesian Coordinate System

AutoCAD provides the user with an infinite two dimensional area to work with. Any entities place on the working two dimensional plane can be defined relative to the Cartesian coordinate system.

The Cartesian coordinate system divides a two dimensional plane with two perpendicular axis. The X axis runs horizontal across the bottom of the screen. The Y axis runs vertically along the left side of the screen. These two axis intersect at the bottom left corner of the screen.

Each of these axis is further divided into segments. Each segment is given a value. The X axis segments increase in value to the right. The positive X values are to the right of the intersection of the two axis. The negative X values are to the left. The positive Y values are above the intersection and increase up. The negative Y values are below.
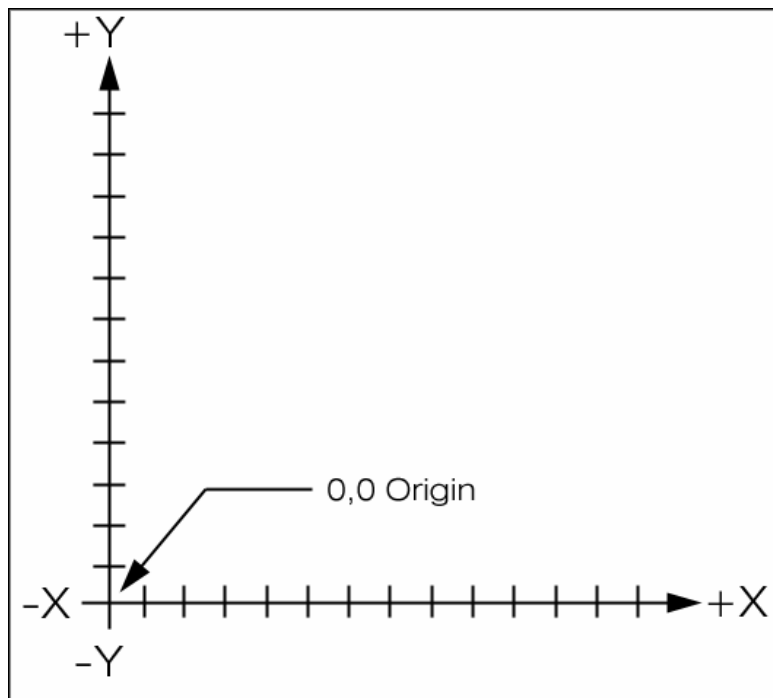
AutoCAD 2D Tutorial

Absolute Coordinates

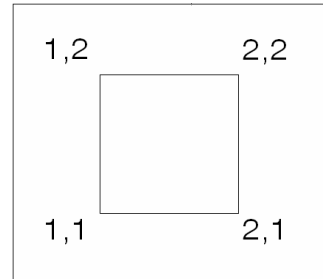1. **Type**   x,y coordinate when AutoCAD asks for a point.

    From point: **1,1**

    To point: **2,1**

    To point: **2,2**

    To point: **1,2**

    To point: **1,1**

```
1,2          2,2




1,1          2,1
```

Relative Coordinates
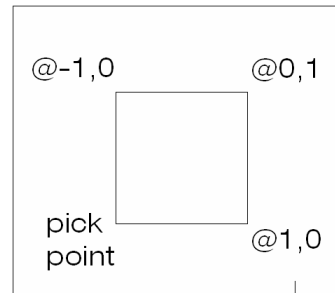
1. **Type**   @deltax,deltay when AutoCAD asks for a point.

    From point pick point

    To point: **@1,0**

    To point: **@0,1**

    To point: **@-1,0**

    To point: **@0,-1**

```
@-1,0              @0,1



pick
point           @1,0
```

Polar Coordinates

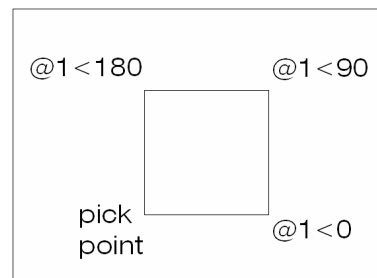1. **Type**   @distance<angle when AutoCAD asks for a point.

    From point: pick point

    To point: **@1<0**

    To point: **@1<90**

    To point: **@1<180**

    To point: **@1<270**

```
@1<180              @1<90



pick
point           @1<0
```

3.3 Dynamic Input

Dynamic Input provides a command interface near the cursor to help you keep your focus in the drafting area.

When Dynamic Input is on, tooltips display information near the cursor that is dynamically updated as the cursor moves. When a command is active, the tooltips provide a place for user entry.

Turning Dynamic Input ON/OFF

1. Click Dyn on the status bar

    or

2. Press F12

Tip: Right-click Dyn and click Settings to control what is displayed by each component when Dynamic Input is on.
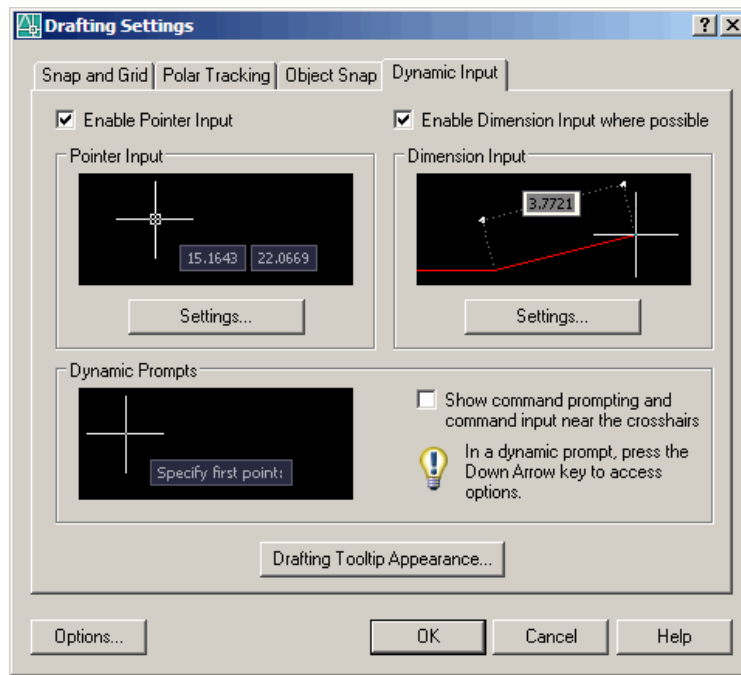
3.4 Orthogonal Lines

Controls lines from being drawn at various angles to straight lines. When the snap grid is rotated, ortho mode rotates accordingly.

1. **Press**   Function Key **F8**.

                    or

2. **Double Click**   ORTHO from the Status Bar.

   **or**

3. **Press**   CTRL + L.

Line drawn
with
ORTHO ON

Line drawn
with
ORTHO
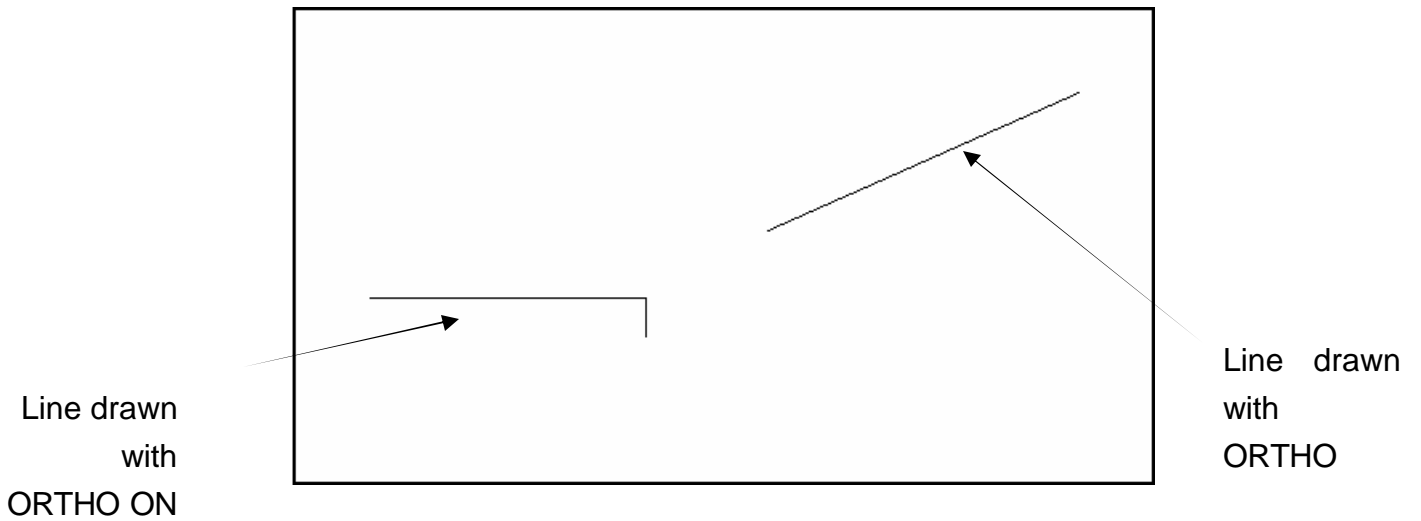
3.5 Polar Tracking

Polar Snaps work independently from snaps. With Polar Snaps on, AutoCAD shows the distances and angles being displayed as the cursor moves.

1. **Choose**   Tools, Drafting Settings

   or

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

   Command : **DDESTTINGS**

3. **Choose**   the Polar trackingTAB from the dialog box.

4. **Select**   the desired incremental angle from the dropdown list (or create a new angle).
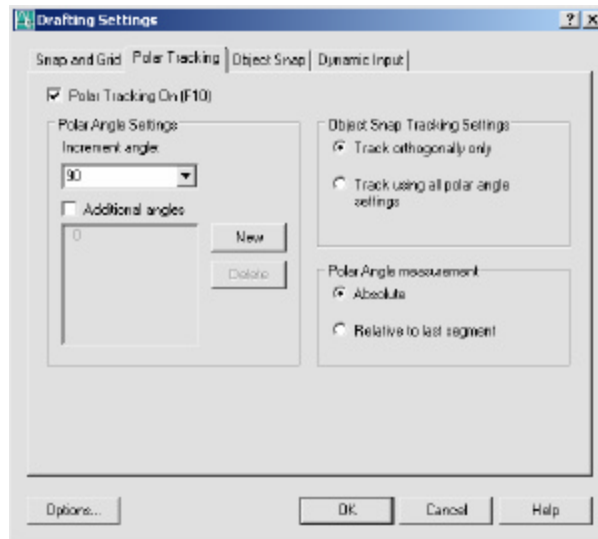
5. **Pick**   OK to exit the dialog box.

6. **Draw**   a LINE using the Polar Snap references.
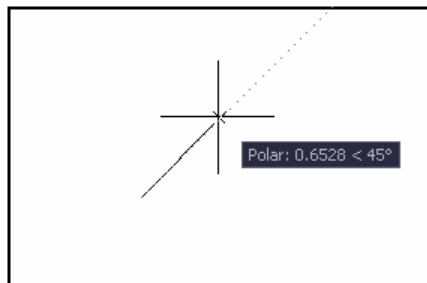
3.6 Circles

Circle Command

Circle, Center Radius

1. **Choose** Draw, Circle.

   or

2. **Click** the Circle icon.

   or

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

   Command: **CIRCLE**

Circle, Center Diameter

4. **Type** One of the following options:
   3P/2P/TTR/<<center point>>:

   or

5. **Pick** A center point.

6. **Type** A radius or diameter.

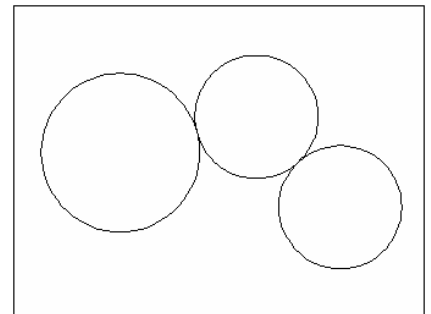   or

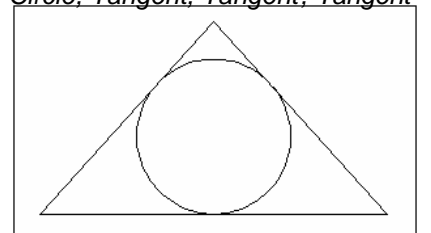7. **Pick** A radius or diameter
   Diameter/<<radius>>:
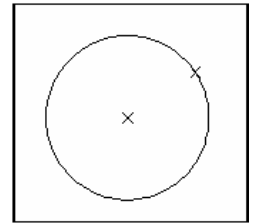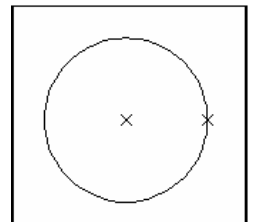
Circle, Tangent, Tangent Radius

TIPS:

- To create circles that are the same size, press
  ENTER when asked for the circle radius.

- When selecting a circle with a pickbox, be sure
  to select the circumference of the circle.

Circle, Tangent, Tangent, Tangent
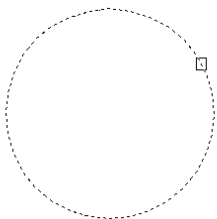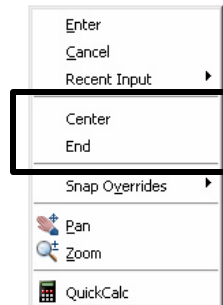
3.7 Arc Command

1. **Choose**   Draw, Arc.

   or

2. **Click**   the Arc icon.

   or

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

   Command: **ARC**
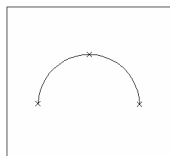
4. **Draw**   One of the arcs.

TIPS:

-Except for 3 point arcs, arcs are drawn in a COUNTERCLOCKWISE direction.

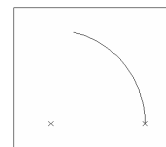- While in the arc command, press the right mouse button to select the following options for arcs:
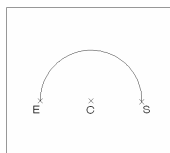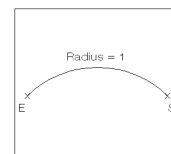
Arc Examples
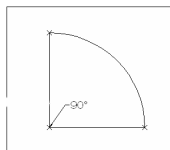
3 point arc

Start ,center, chord length

start, center, end

Start, end, radius

Start , center, included angle

Start, end, direction