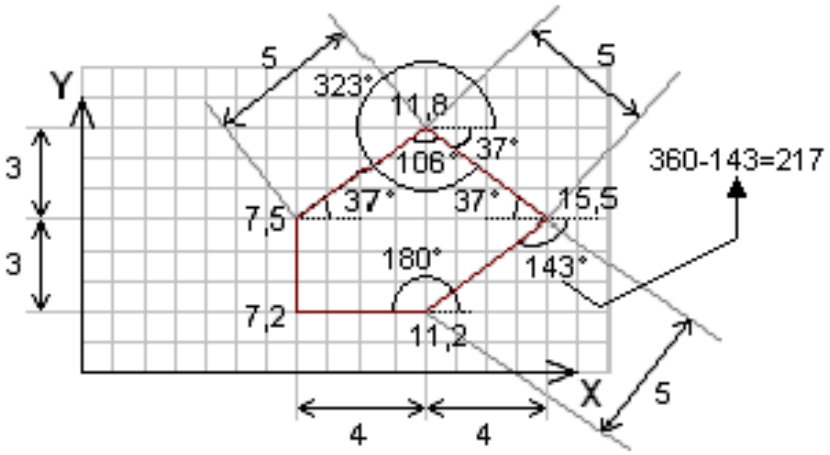
ENG103 – Computer Aided Design
Lecture Set I

LINE Tool Command

The command for line is '**LINE**' or '**L**'. It is possible to draw a line with one of the five methods. These are,

1. Absolute co-ordinate entry (#)
2. Relative Absolute co-ordinate entry (@)
3. Relative Polar co-ordinate entry (@<)
4. Direct Distance entry
5. Grid and Snap

Following drawing will be used to illustrate method 1, 2 and 3.



1. Absolute co-ordinate entry. This method requires 'sharp' (#) sign. Draws lines between given coordinates on X-Y plane. It is important that, in AutoCAD 2010, if # sign is not used, AutoCAD will use @ sign (see 2nd methode) as default so, be sure that you use # sign before entery of any coordinate.

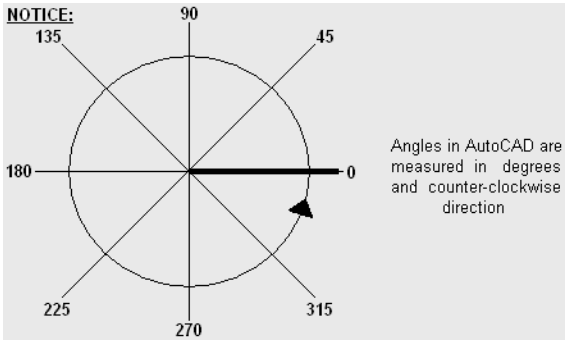
LINE↵
7,2↵
#7,5↵
#11,8↵
#15,5↵
#11,2↵
#7,2↵ OR C↵ Note: 'C' means close and draws a line to starting point

2. Relative Absolute co-ordinate entry. This method requires 'at' (@) sign. Draws lines relative to the last point. Note that, if you do not use @ sign, AutoCAD will automatically add it as default.

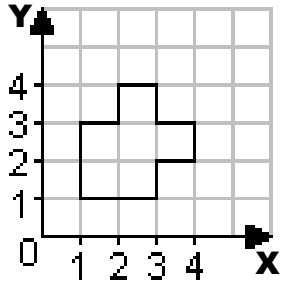
LINE↵
7,2↵
@0,3↵
@4,3↵
@4,-3↵
@-4,-3↵
@-4,0↵ OR C↵

3. Relative Polar co-ordinate entry. This method requires 'at' (@) and 'smaller than' (<) sign. Draws lines relative to the last point with given angle.

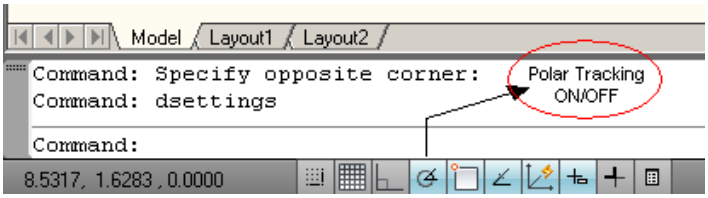
LINE↵
7,2↵
@3<90↵
@5<37↵
@5<323↵
@5<217↵
@4<180↵ or C↵



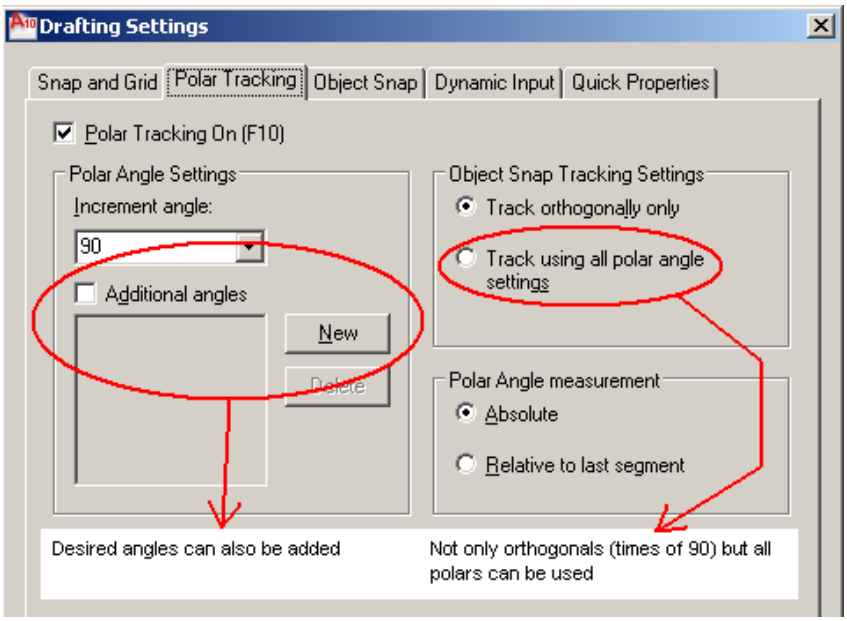
Following drawing will be used to illustrate method 4 and 5.



4. Direct Distance entry. In this method mouse must be used. It is important that, in order to use this method, Polar Tracking (which is used to fix lines in desired angles) must be ON (see figure of quick launch tray below). It is also possible to make Polar Tracking On/Off just by using F10 key.



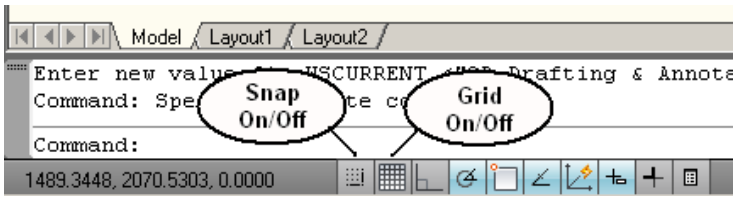
As default, polar tracking fixes 0, 90, 180, 270 degrees. Other angles can be added using 'Drafting Settings'. Note that, drafting settings can be obtained by 'right click' on 'Polar Tracking' and then, choosing 'Settings' from pop-up menu OR by simply writing command 'dsettings'.



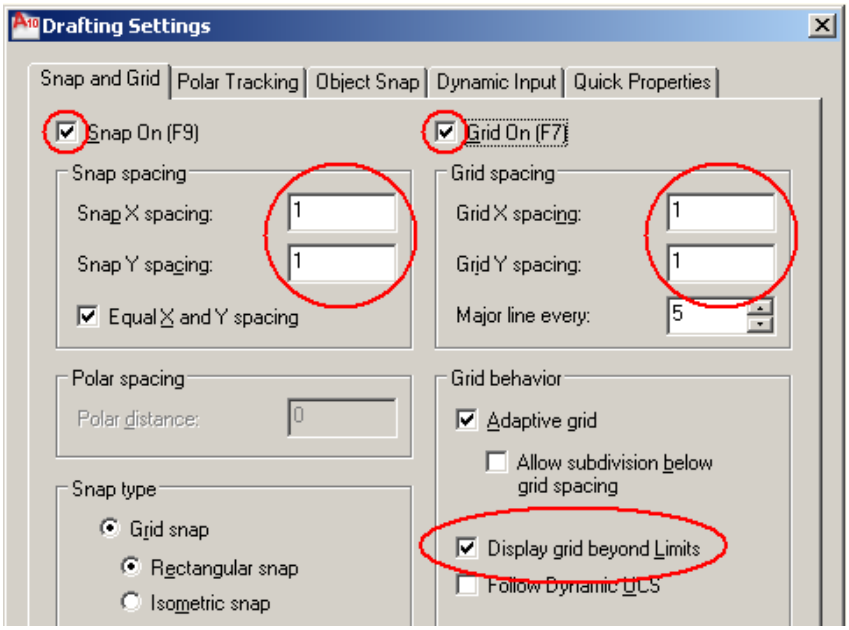
LINE↵
1,1↵
move mouse pointer 90º top of first point,
2↵
move mouse pointer 0º right of relevant point,
1↵
move mouse pointer 90º top of relevant point,
1↵
move mouse pointer 0º right of relevant point,
1↵
move mouse pointer 90º down of relevant point,
1↵
move mouse pointer 0º right of relevant point,
1↵
move mouse pointer 90º down of relevant point,
1↵
move mouse pointer 180º left of relevant point,
1↵
move mouse pointer 90º down of relevant point,
1↵
move mouse pointer180º left of relevant point,
2↵ or C↵

5. Grid and Snap. Totally mouse will be used in this method. First of all, we will display grids on screen then we will set snap points on grids points. Only 90° and 45° angles can be drawn easily with this method.

It is possible to turn Grid and Snap, On and Off using icons on tray (see figure below), also using keys F7 for Grid and F9 for Snap



It is also possible to make Grid and Snap, On and Off using 'Drafting Settings'. In any case in order to arrange Grid and Snap dimensions 'Drafting Settings' must be used. For our example, lets make all grid and snap spacings 1. Also check 'Display Grid Beyond Limits', this will show grids outside of drawing area.



After doing all these adjustements it is possible to start drawing directly by using mouse BUT it will be better to give the first point with LINE command. Otherwise we may not be sure about the coordinates of starting point.

LINE↵
1,1↵

Then draw remaining of figure by using mouse only. Note that, when finish drawing you'll just press ESC.

