



Al-Mustaql University  
College Of Engineering Technology  
Department Of Cyber Security Techniques Engineering  
Class: 1<sup>st</sup>

Subject: Drawing engineering  
Lecturer: M.Sc. Afyaa Saad & M.Sc. Zahraa Hussein  
1<sup>st</sup> term – Lecture 3:- Drawing Tool

الكلية التقنية الهندسية

قسم هندسة تقنيات الامن السيبراني



Lecture: 3- Drawing Tool



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## THIS LACTURE INCLUDES :-

- ✓ **Setup of the units**
- ✓ **Setup of the drawing grid**
- ✓ **Draw Line commands**
- ✓ **Draw Polyline commands**
- ✓ **Draw Circle commands**
- ✓ **Application of Line and Circle commands**



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## Draw list

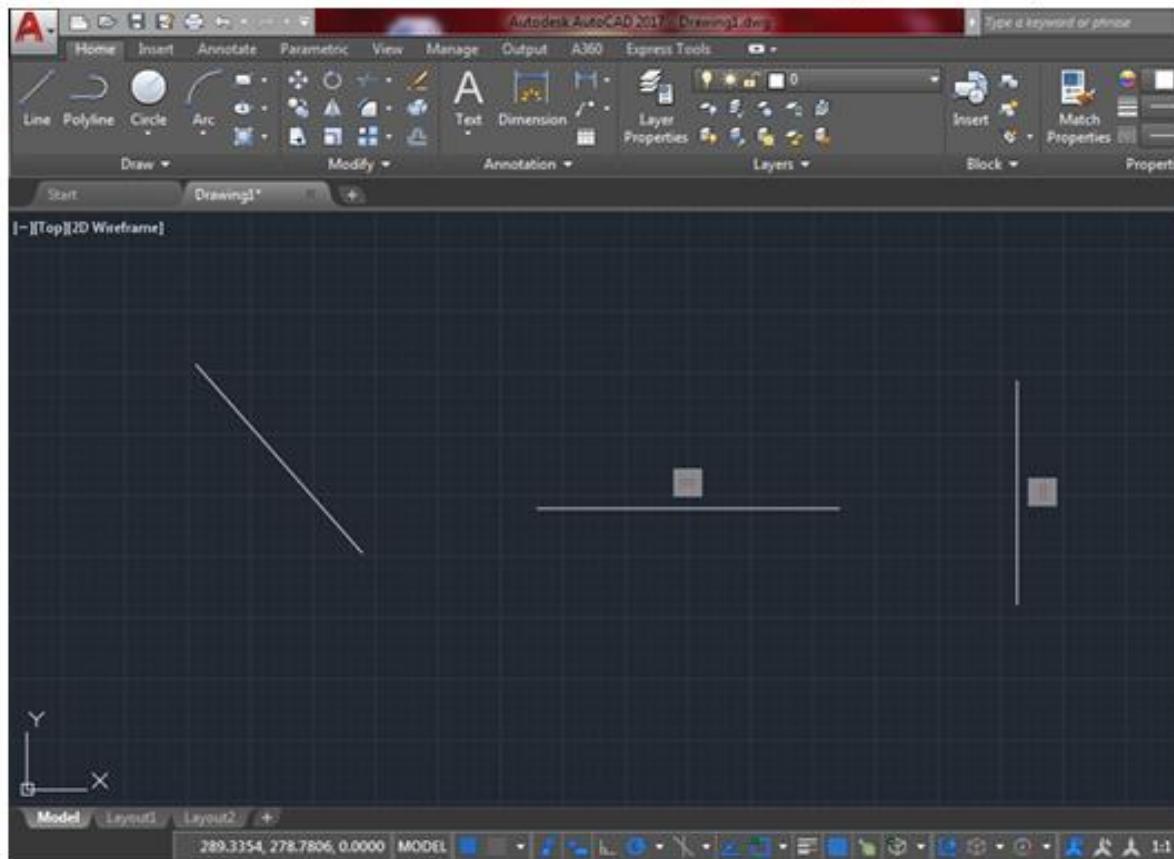
**This list contains a set of commands, each of which draws a specific shape according to the inputs, which could be the starting point, the center, and the radius up to the ending point.**

**There are basic commands that you rely on when drawing shapes, due to their clarity and ease of finding them in the list. The commands are:**



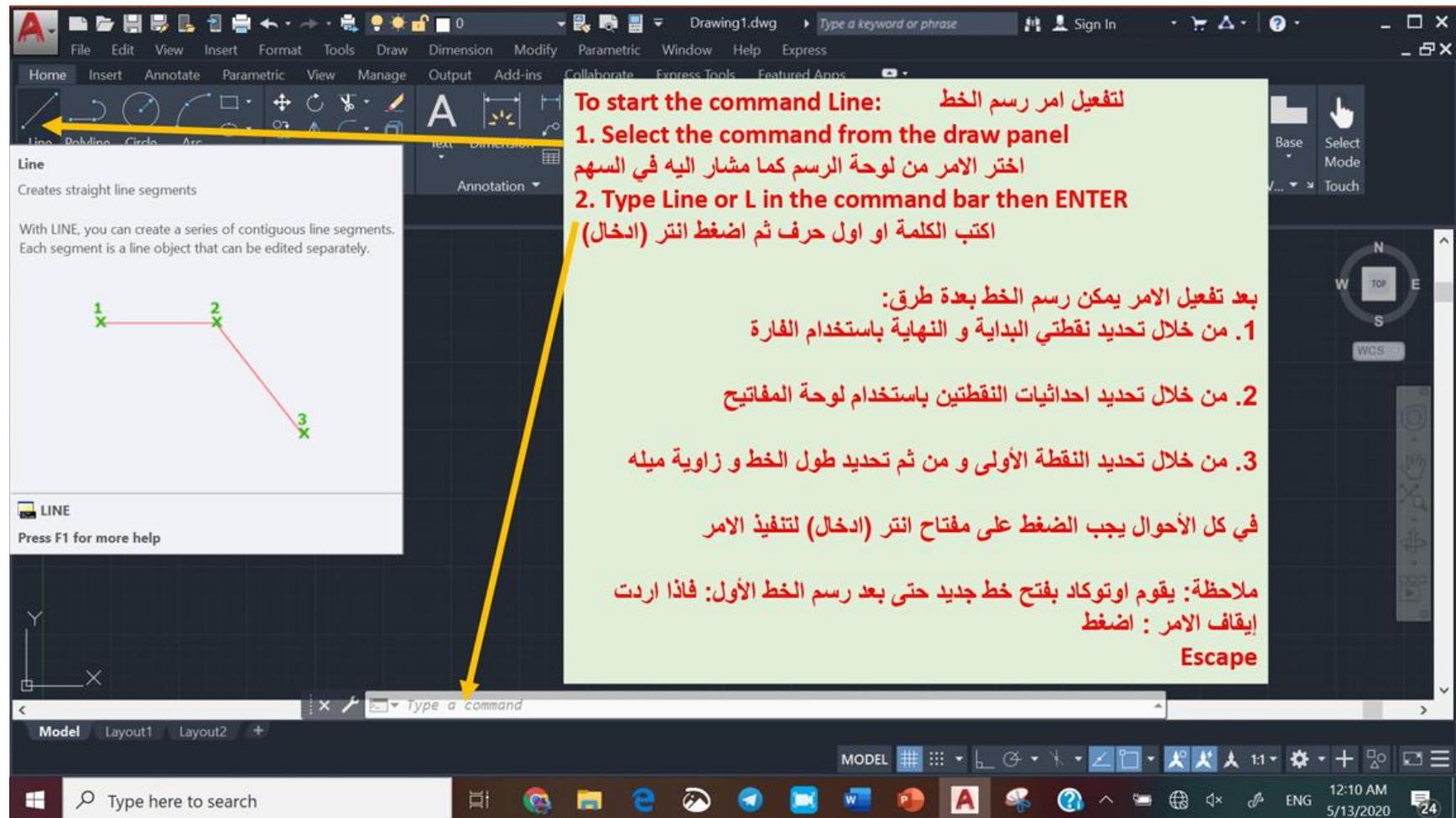
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## Line

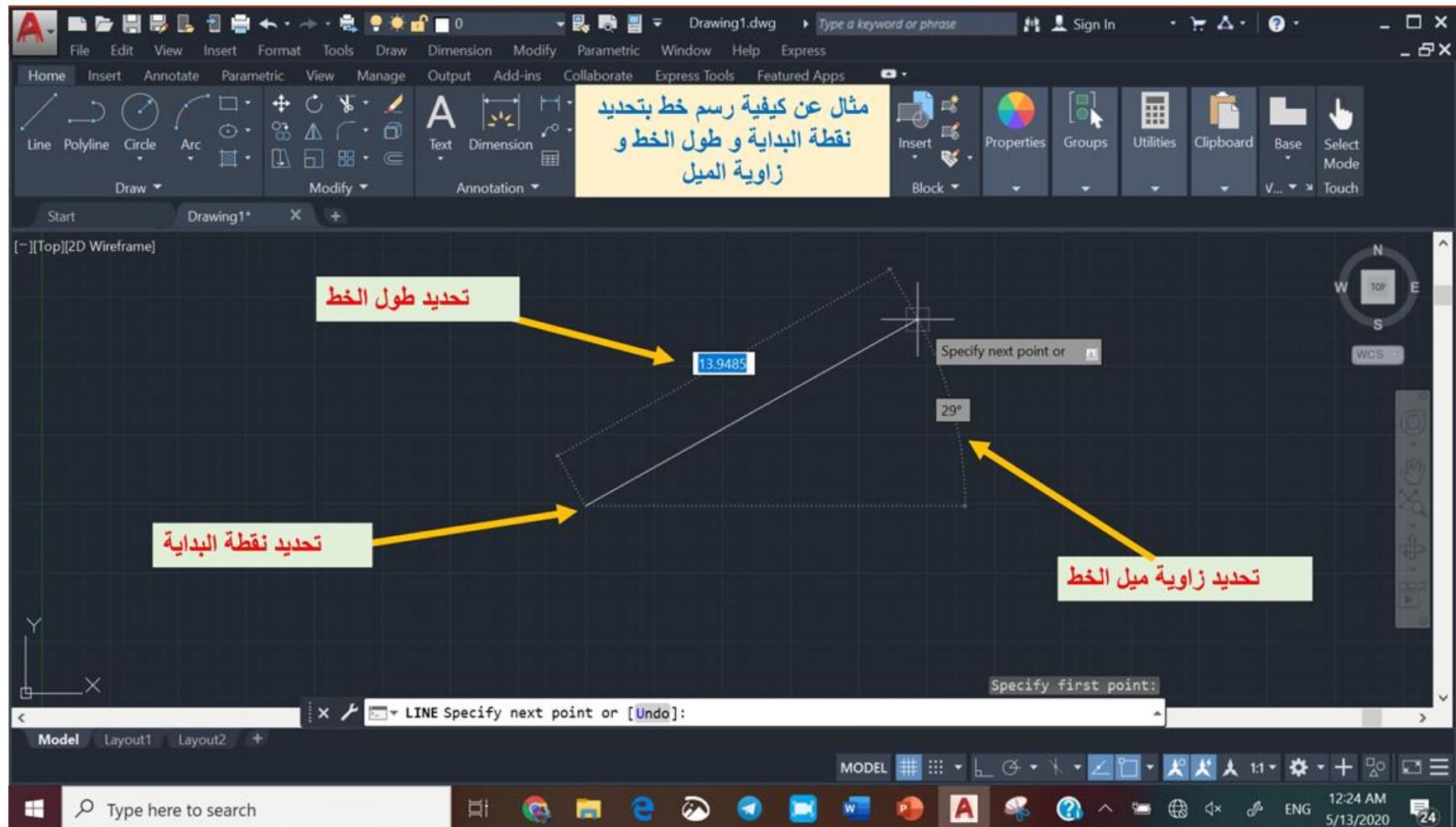
One of the most important commands that can be used to draw a line, whether it is diagonal, straight or vertical.





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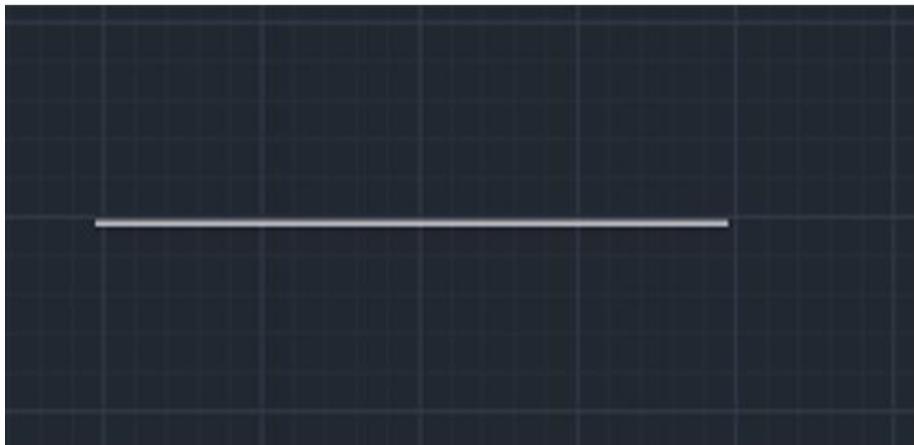




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رسم خط مستقيم بطول مقداره (1000) وبزاویه صفر.



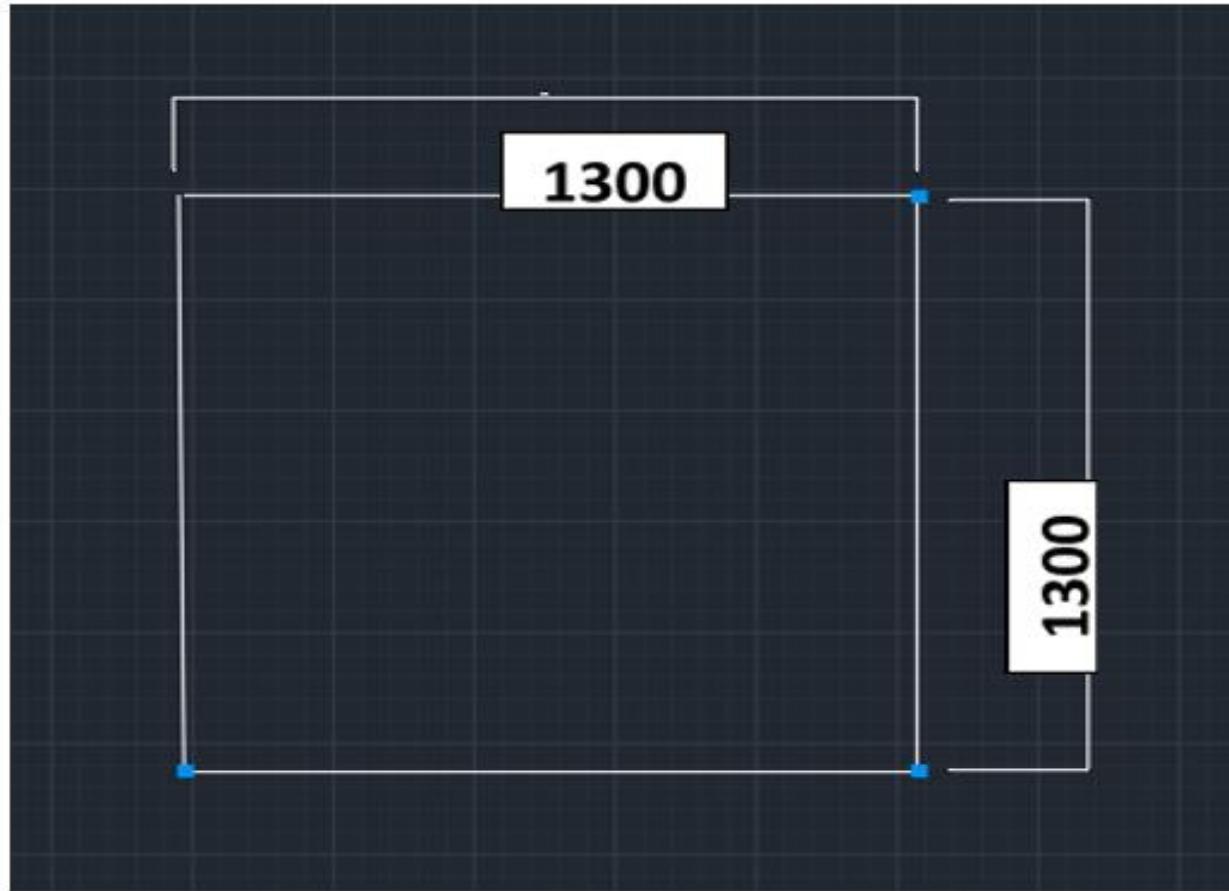
رسم خط مستقيم بطول مقداره (1000) وبزاویه (90).





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**Draw a square, the length of each side of the square is (1300).**





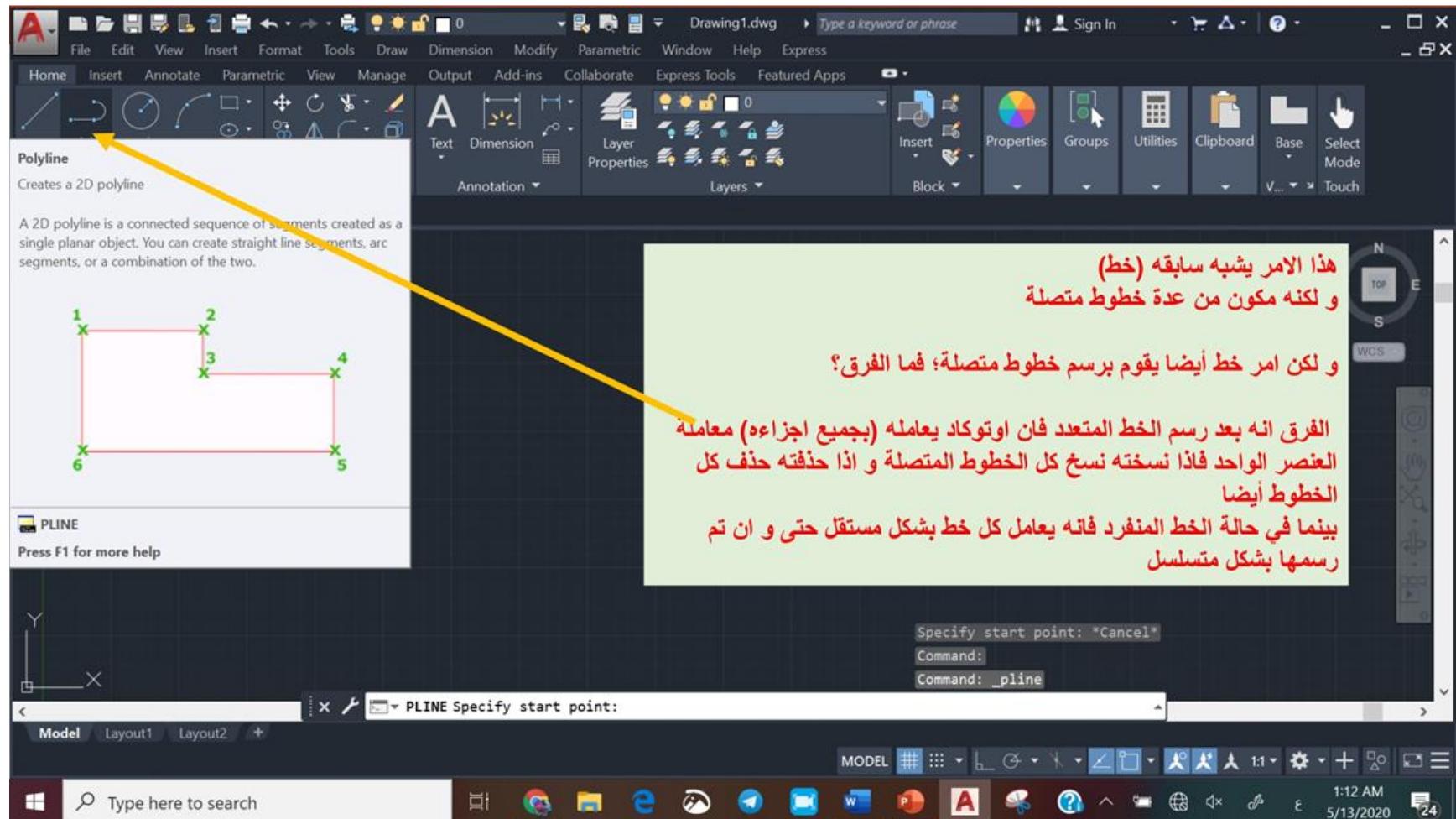
## Polyline

**This command is used to draw a line composed of multiple lines. There are three ways to achieve this:**

### **Command:**

- 1- Through the drop-down menu bar, where we choose Draw, then Polyline.**
- 2- Through the drawing toolbar, we choose the polyline command.**

**This command is characterized by the fact that it is possible to draw straight lines and arcs connected to each other. This command is also characterized by the fact that it is possible to give a thickness at the beginning of the line that is different from the thickness at its end.**





## Circle

Drawing circles is one of the important commands that can be accessed through several Options are:

Through the **Ribbon bar**, we choose the command (**circle**).

From the drop-down menu bar, we choose the **Draw** menu and choose the **Circle** command.

By typing the shortcut ( **C** ) in the command bar

When you click on **Circle**, several options will appear, as follows:

### Center, Radius

This command is used to draw a circle by selecting the center point and the radius length.

### Center, Diameter

This command is used to draw a circle by selecting the center point and the diameter length.



**To start the command Circle:** لتفعيل امر رسم الدائرة

**1. Select the command from the draw panel**  
 اختر الامر من لوحة الرسم كما مشار اليه في السهم

**2. Type Circle or C in the command bar then ENTER**  
 اكتب الكلمة او اول حرف ثم اضغط انتر (ادخال)

بعد تفعيل الامر يمكن رسم الدائرة بعدة طرق:

1. من خلال تحديد مركز الدائرة و نصف قطرها باستخدام الفارة و/ او لوحة المفاتيح
2. من خلال تحديد مركز الدائرة و قطرها باستخدام الفارة و/ او لوحة المفاتيح
3. من خلال تحديد نقطتين
4. من خلال تحديد ثلاثة نقاط
5. من خلال تحديد مماسين و نصف قطر الدائرة
6. من خلال تحديد ثلاثة مماسات

في كل الاحوال يجب الضغط على مفتاح انتر (ادخال) لتنفيذ الامر

ملاحظة: يقوم اوتوكاد بفتح خط جديد حتى بعد رسم الخط الأول: فلذا اردت ايقاف الامر : اضغط **Escape**



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