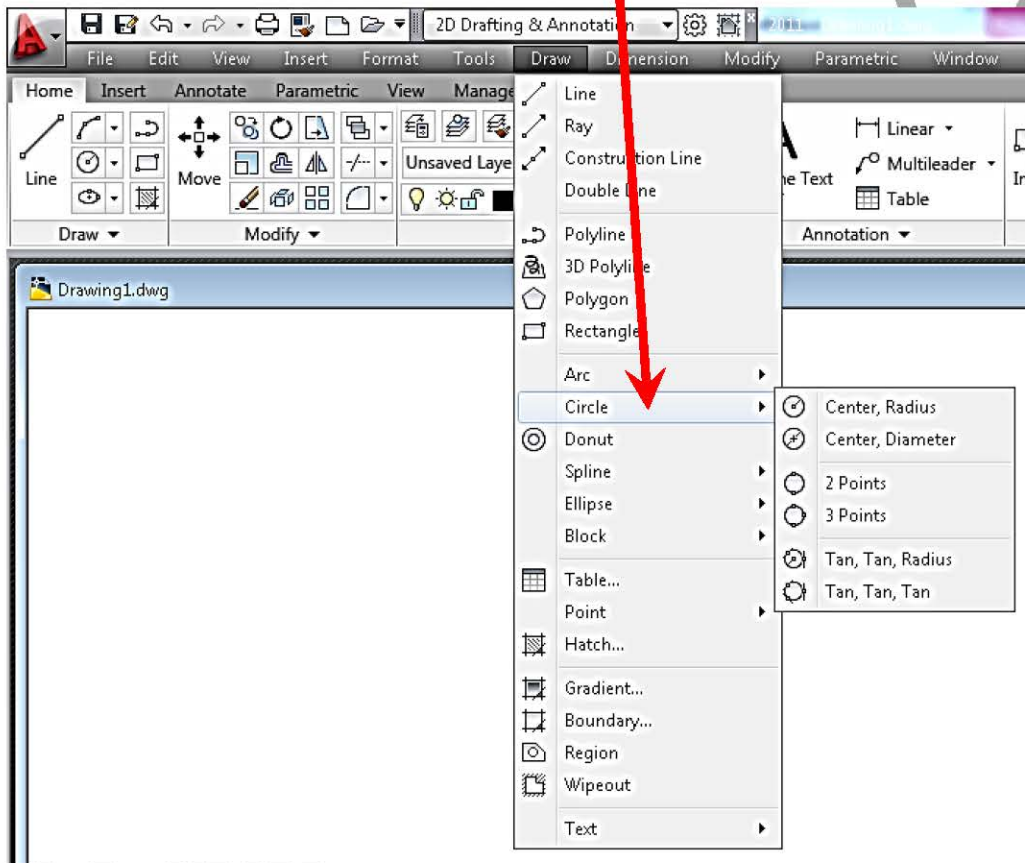


## 2-5 CIRCLE

This command is used to draw a circle and its abbreviation is **C**. There are three methods to activate it:

1. From tools bar menu, choose Draw >> Circle.



2. Click the Circle icon from the ribbon, .

3. Type **CIRCLE** in the command bar or **C**, as shown below:

Command: Circle or c, and press ENTER

Then the following message appears:

```
Command: CIRCLE
Specify center point for circle or [3P/2P/Ttr (tan tan radius)]:
```

Which asks to specify the center point of the circle or a set of sub-commands [3P/2P/Ttr (tan tan radius)]. Choose center point and press

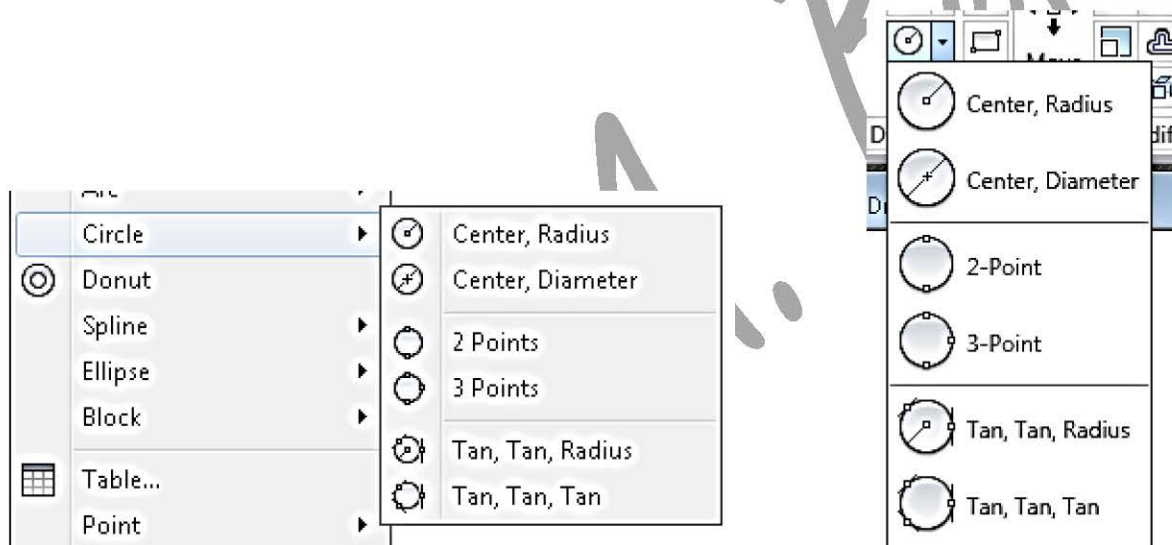
Enter, then the following message appears:

```
radius)]:  
Specify radius of circle or [Diameter] <24.1431>:
```

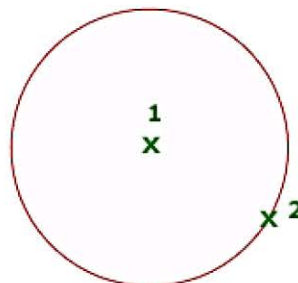
Specify the radius or print D to specify the diameter and press Enter.

The circle will be drawn.

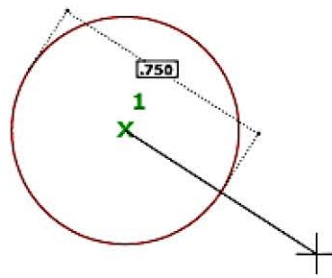
After we selecting this command from menu bar or pressing the black triangle of circle icon we obtain a set of sub-commands:



➤ Center, Radius: This command is used to draw a circle by choosing the center point and radius length. As showing above.



➤ Center, Diameter: This command is used to draw a circle by choosing the center point and the diameter length.

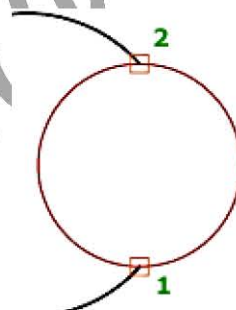


When you choose this command and specifying center point the following message appears:

```
radius]):  
Specify radius of circle or [Diameter] <215.8443>: _d Specify diameter of circle <431.6887>:
```

Which asks to specify the diameter and press Enter. The circle will be drawn.

- **2 Points:** This command is used to draw a circle by specifying two points, knowing that these two points are the beginning and end of the circle diameter.



When you choose this command the following message appears:

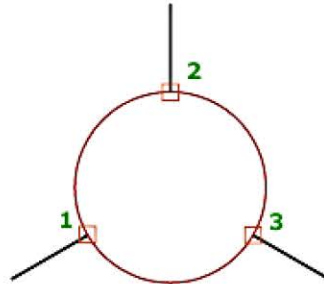
```
Command:  
Command: circle Specify center point for circle or [3P/2P/Tr (tan tan radius)]: _2p Specify first end point of circle's diameter:
```

Which ask you to specify the first end point of circle's diameter. After you specify the first point and pressing Enter the following message appears:

```
radius]): _2p Specify first end point of circle's diameter:  
Specify second end point of circle's diameter:
```

Which ask you to specify second end point of circle's diameter and press Enter. The circle will be drawn.

- **3 Points:** This command is used to draw a circle by identifying three points located on the circumference of the circle.



When you choose this command the following message appears:

```
Command:
Command: circle Specify center point for circle or [3P/2P/Ttr (tan tan radius)]: 3p Specify first point on circle:
```

Which ask you to specify the first point on circle's circumference. After you specify the first point and pressing Enter the following message appears:

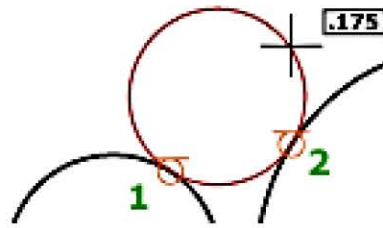
```
radius)]: 3p Specify first point on circle:
Specify second point on circle:
```

Which ask you to specify the second point on circle's circumference. After you specify the second point and pressing Enter the following message appears:

```
Specify second point on circle:
Specify third point on circle:
```

Which ask you to specify the third point on circle's circumference and press Enter. The circle will be drawn.

- **Tan, Tan, Radius:** This command is used to draw a circle by specify two tangents (lines or objects) for the circle and radius length.



When you choose this command the following message appears:

```
radius)]: _ttr  
Specify point on object for first tangent of circle:
```

Which ask you to specify the first tangent point on circle's circumference. After you specify the first tangent point the following message appears:

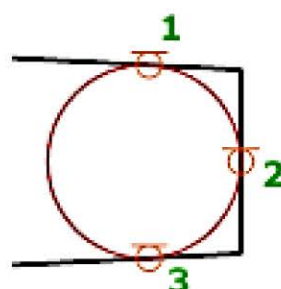
```
Specify point on object for first tangent of circle:  
Specify point on object for second tangent of circle:
```

Which ask you to specify the second tangent point on circle's circumference. After you specify the second point the following message appears:

```
Specify point on object for second tangent of circle:  
Specify radius of circle <792.3500>:
```

Which ask you to specify the radius of the circle and press Enter. The circle will be drawn.

➤ Tan, Tan, Tan: This command is used to draw a circle by specifying three tangents (lines or objects) for the circle.



When you choose this command the following message appears:

```
Command:
Command: _circle Specify center point for circle or [3P/2P/Ttr (tan tan radius)]: _3p Specify first point on circle: _tan to
```

Which ask you to specify the first tangent line or object to the circle's circumference. After you specify first one, the following message appears:

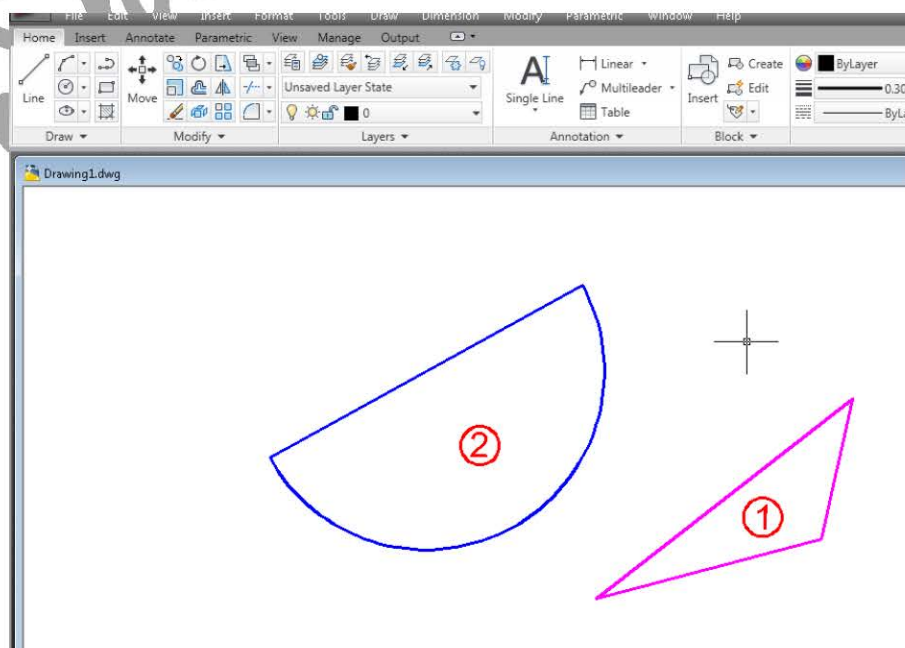
```
radius)]: _3p Specify first point on circle: _tan to
Specify second point on circle: _tan to
```

Which ask you to specify the second tangent line or object for circle's circumference. After you specify the second one, the following message appears:

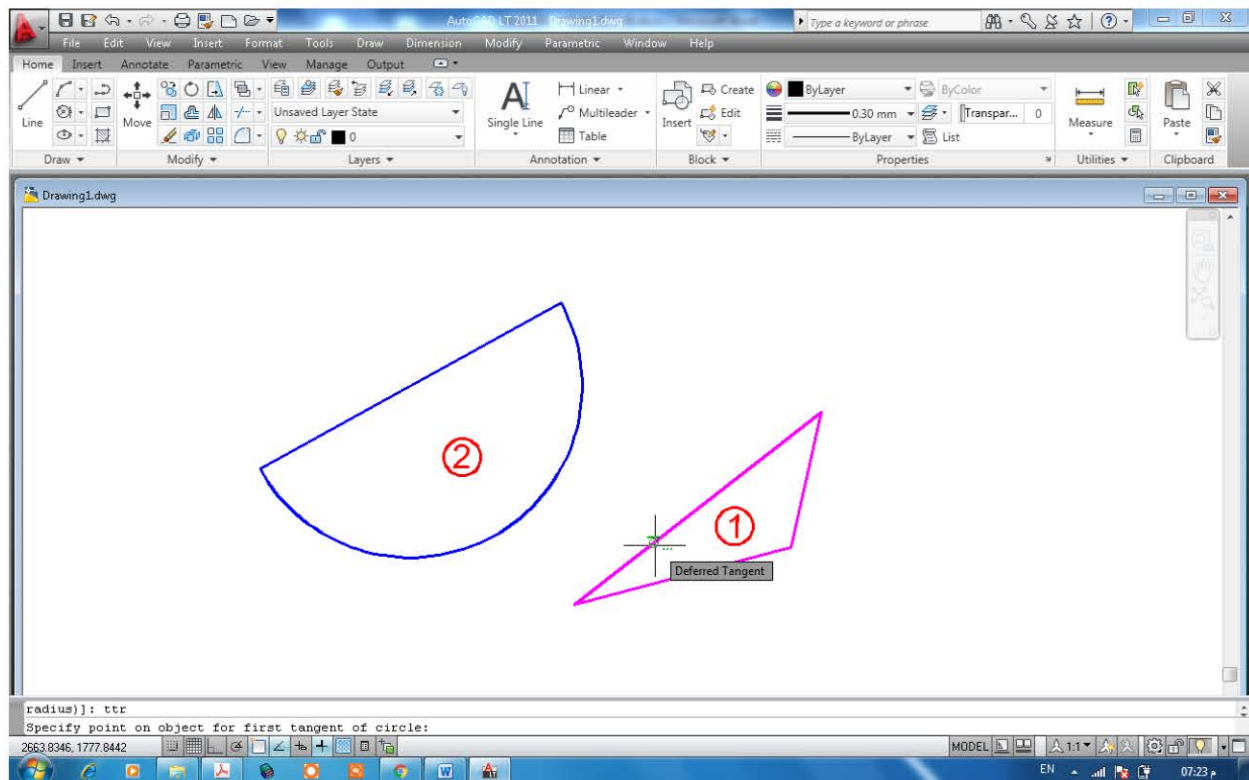
```
Specify second point on circle: _tan to
Specify third point on circle: _tan to
```

Which ask you to specify the third tangent line or object to the circle then the circle will be drawn.

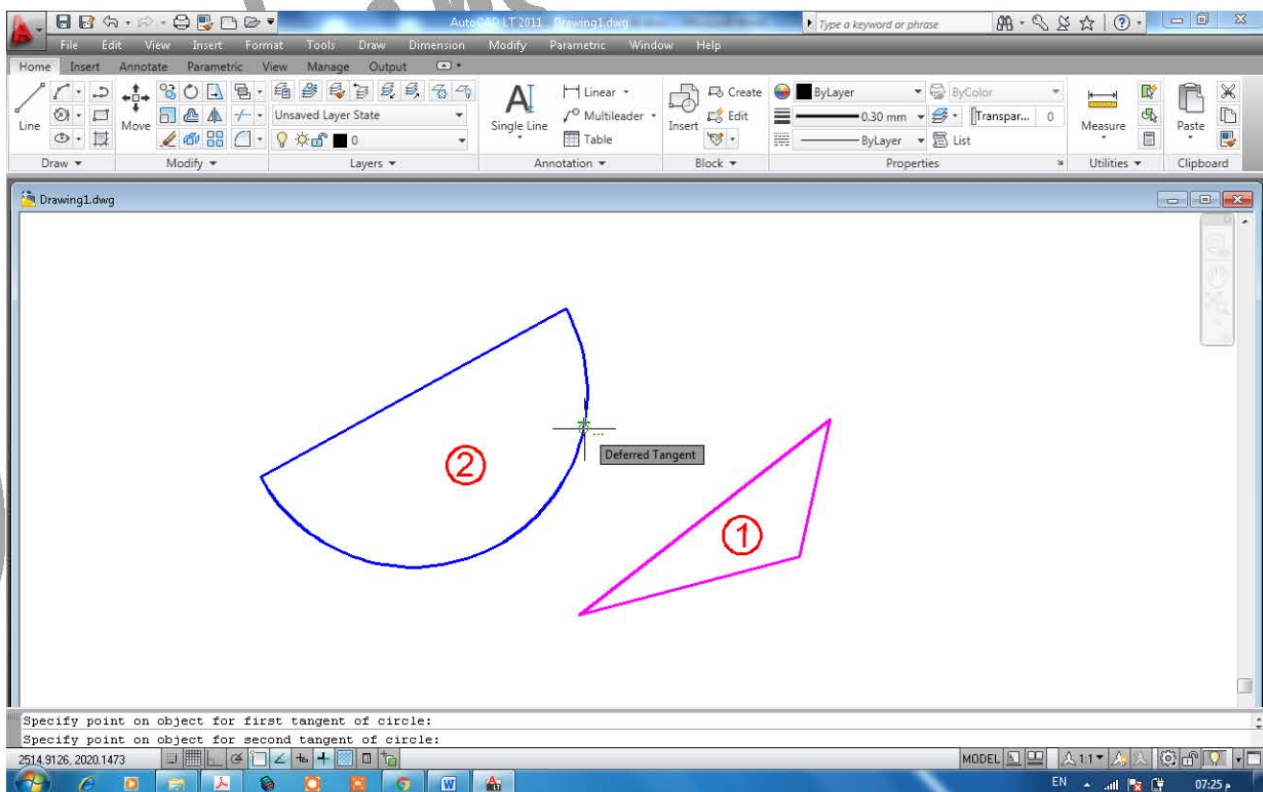
**Example3:** Draw a circle tangent to tow objects shown in Figure below has 120 mm radius.



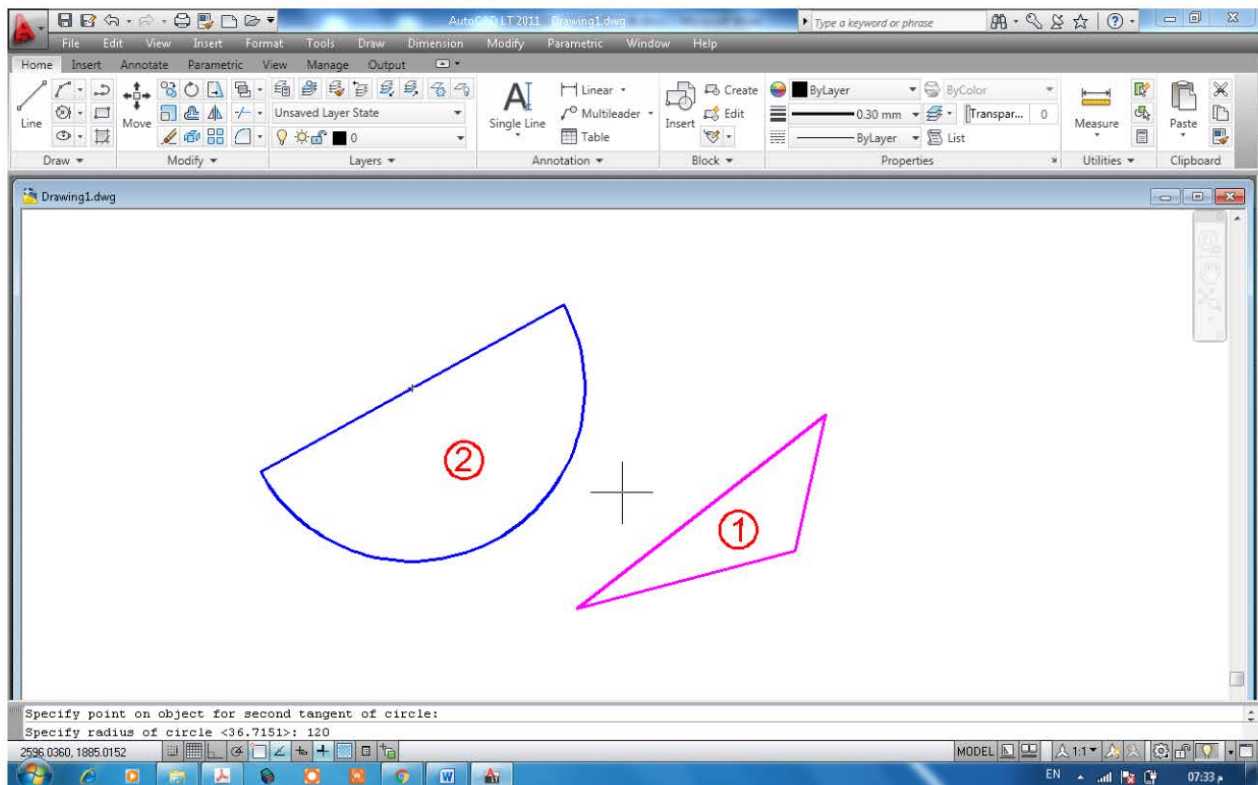
**Solution:** Choose Circle then choose the command: Tan, Tan, Radius. The following message appears:



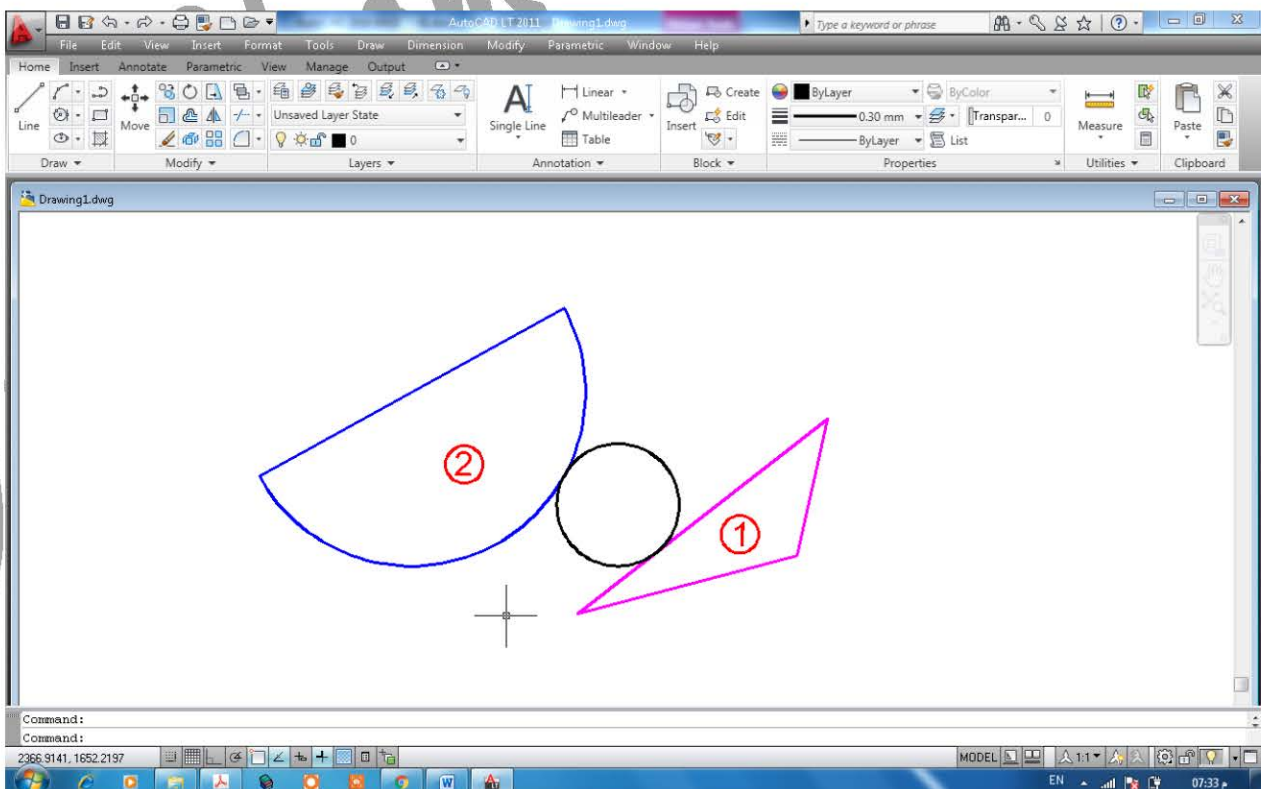
Specify the first line of object (1), (Which we specify by mouse), the following message appears:



Specify the second line of object (2), (Which we specify by mouse), the following message appears:



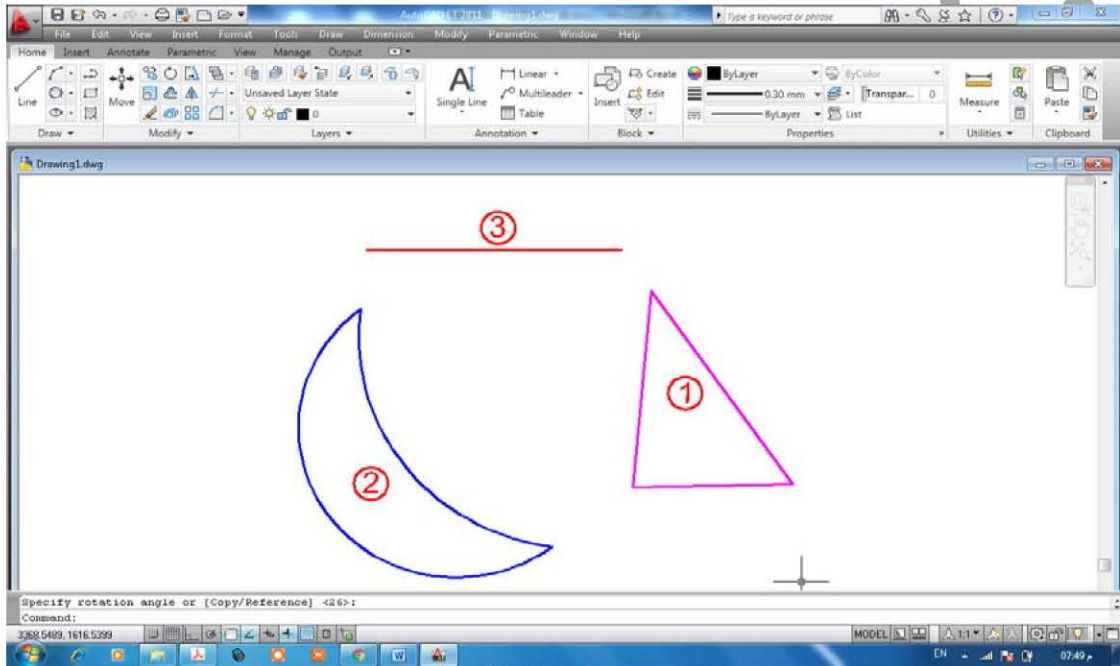
Which asks to determine the length of the radius of the circle to be 120, then press Enter. The circle is drawn as shown in Figure below:



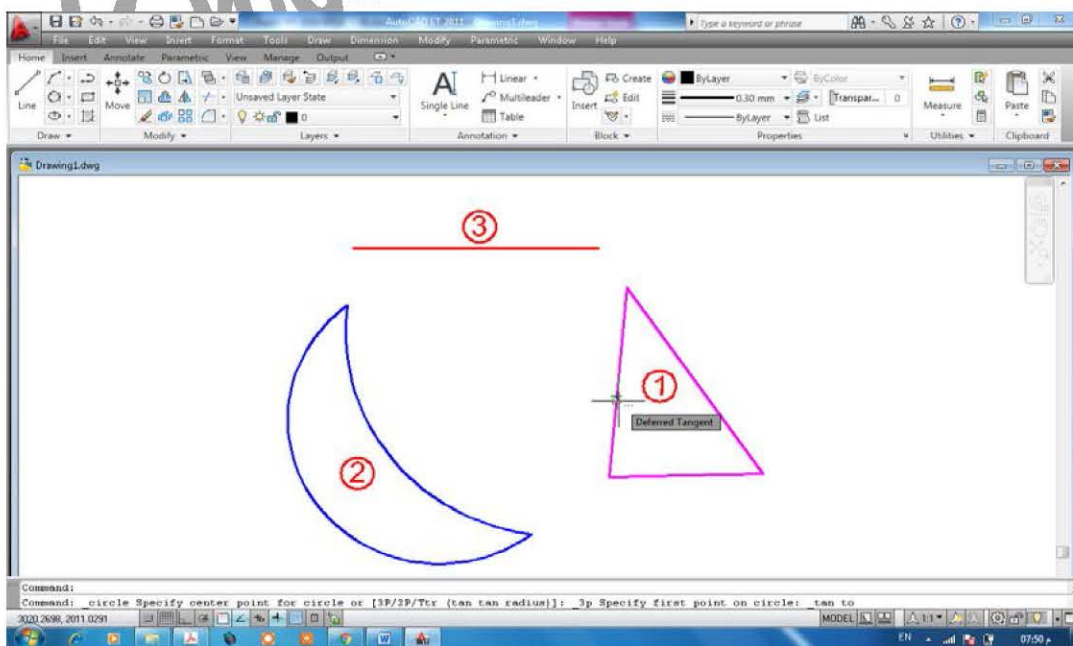


- Note: If the circle does not appear on the drawing screen, then the circle is tangent to an extension of lines.

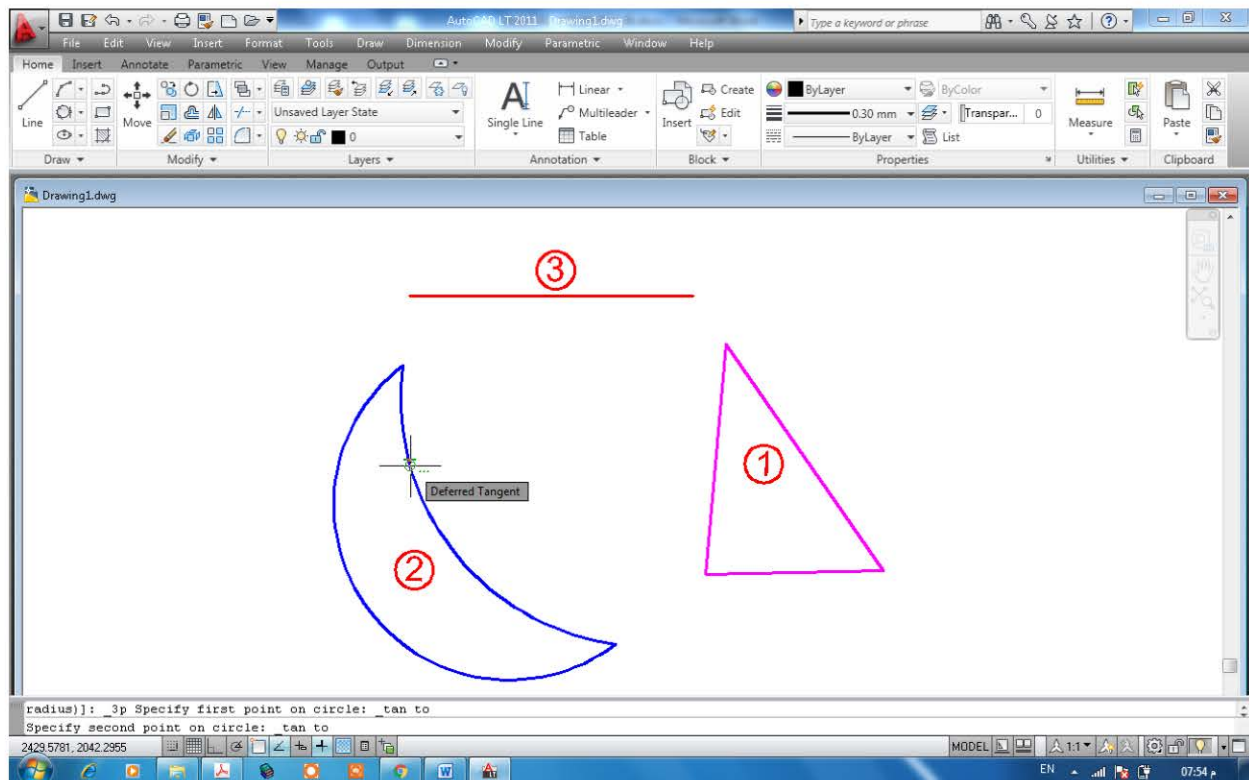
**Example4:** Draw a circle tangent to the three objects shown in Figure below.



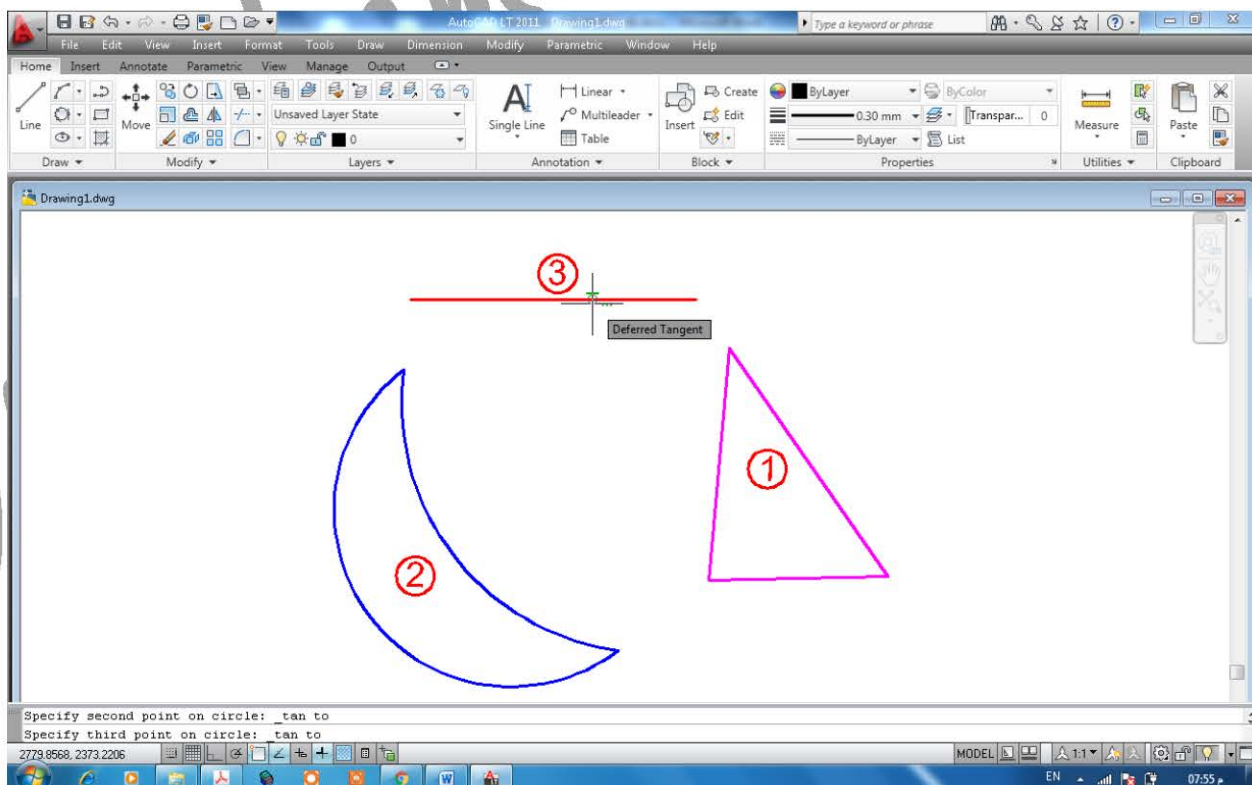
**Solution:** Choose Circle and then choose the command: Tan, Tan, Tan. The following message appears:



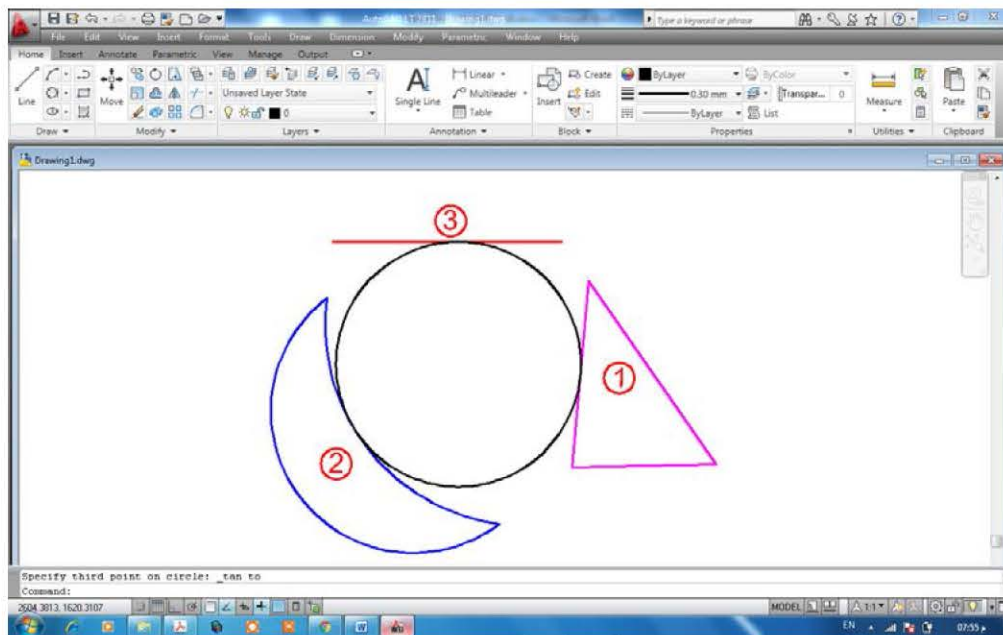
Specify the first line of object (1), (Which we specify by mouse), the following message appears:



Specify the second line of object (2), (Which we specify by mouse), the following message appears:



Specify the third line of object (3), (Which we specify by mouse), the circuit is drawn as shown below:



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