# 1. SETTING DIMENSION SCALE

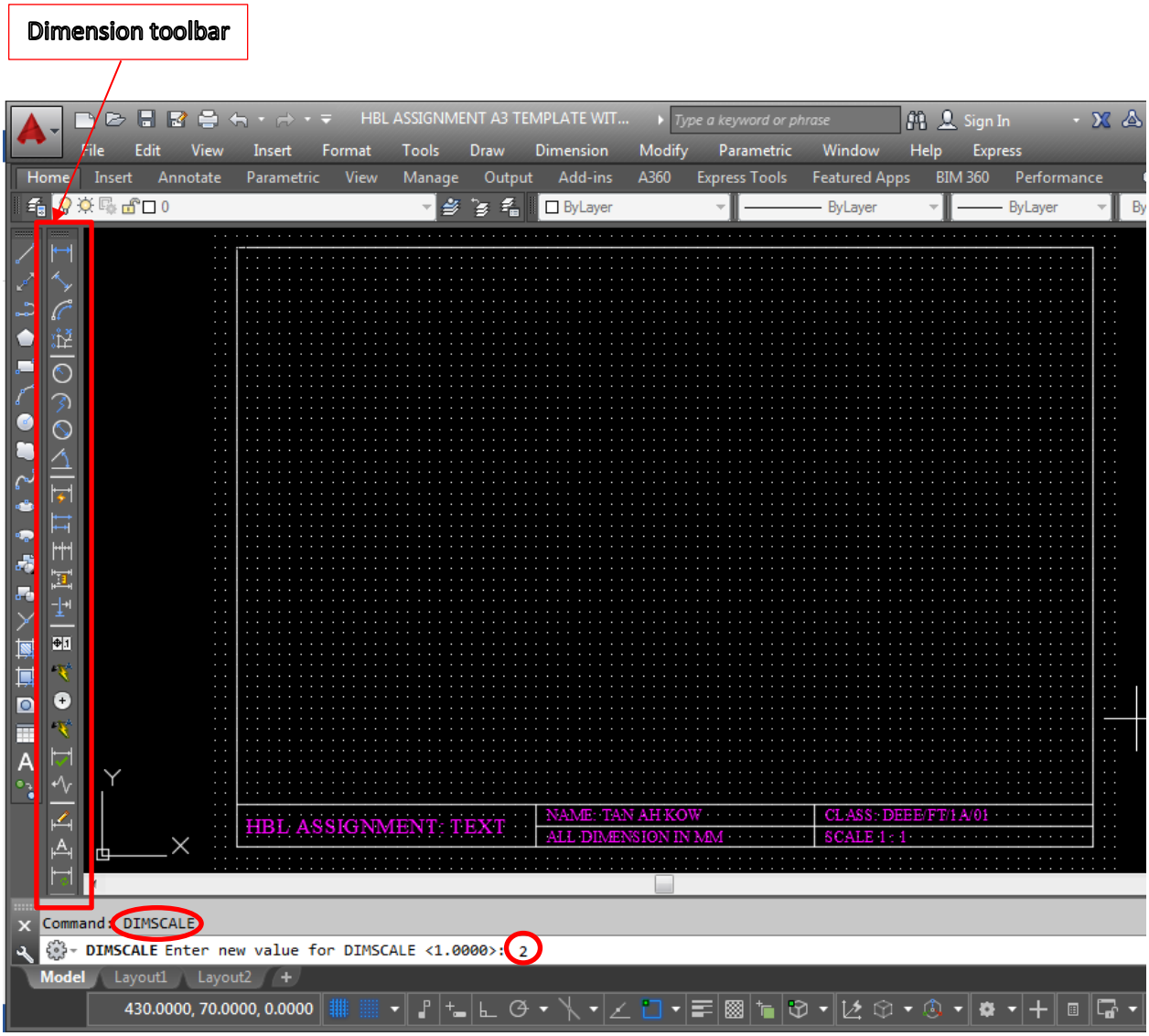


**Fig 1.1**-Setting Dimension Scale

Command: **dimscale** (enter)

Enter new value for DIMSCALE <1.0000>: **2** (enter)

# 2. DIMENSION STYLE SETTINGS

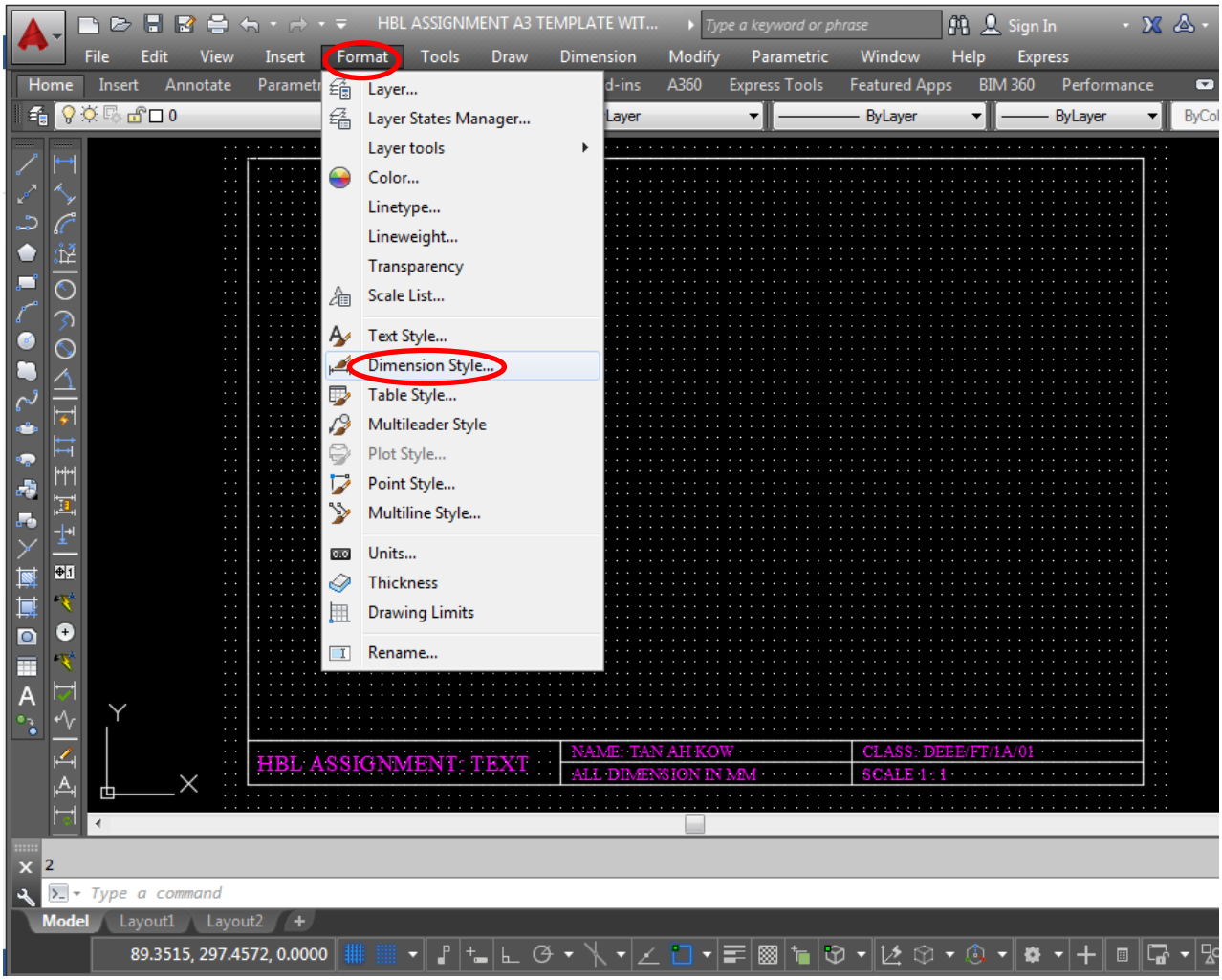


**Fig 2.1**- Format→Dimension Style

Click: **Format**

Click: **Dimension Style**

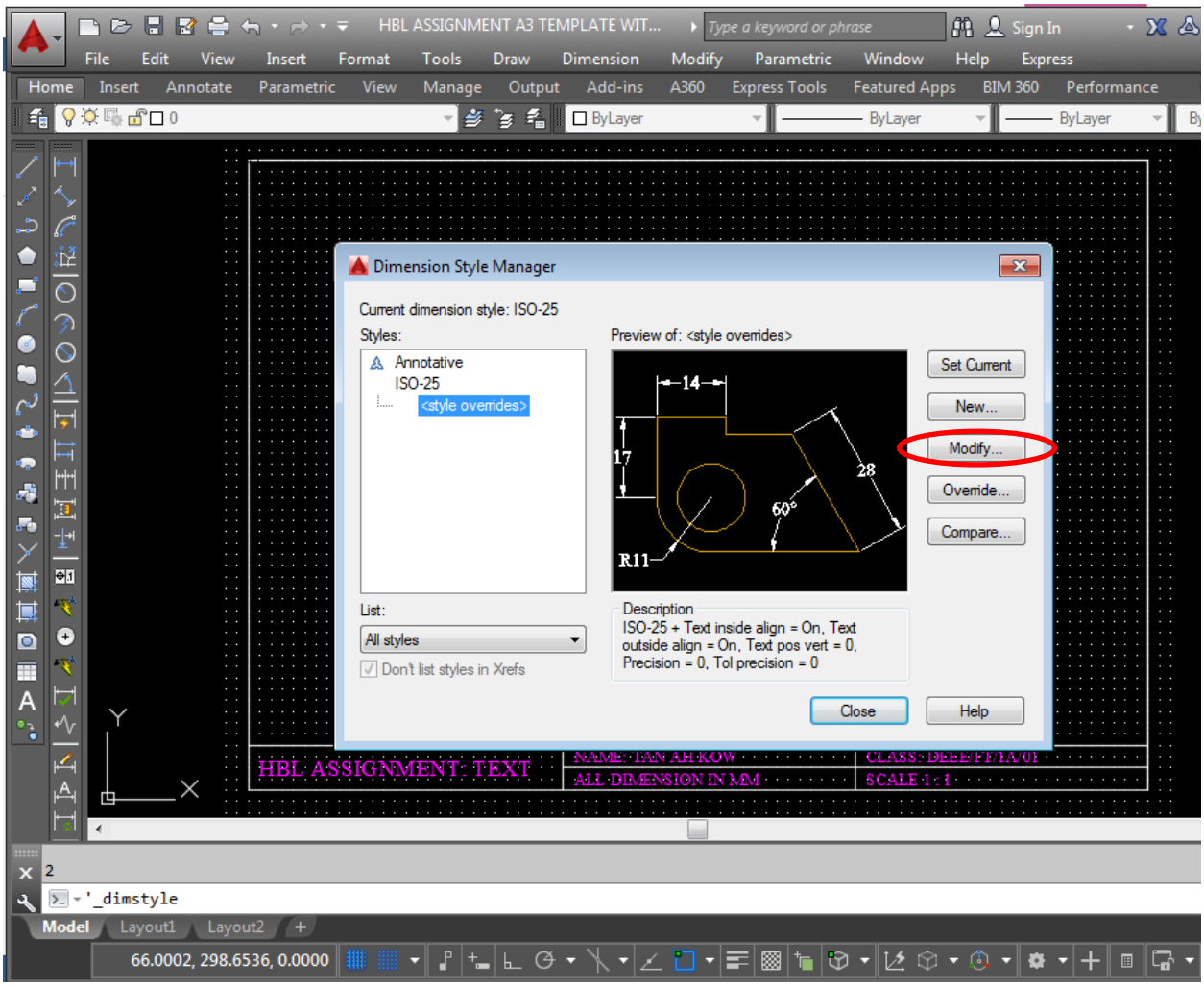


**Fig 2.2**- Modify

Click: **Modify**

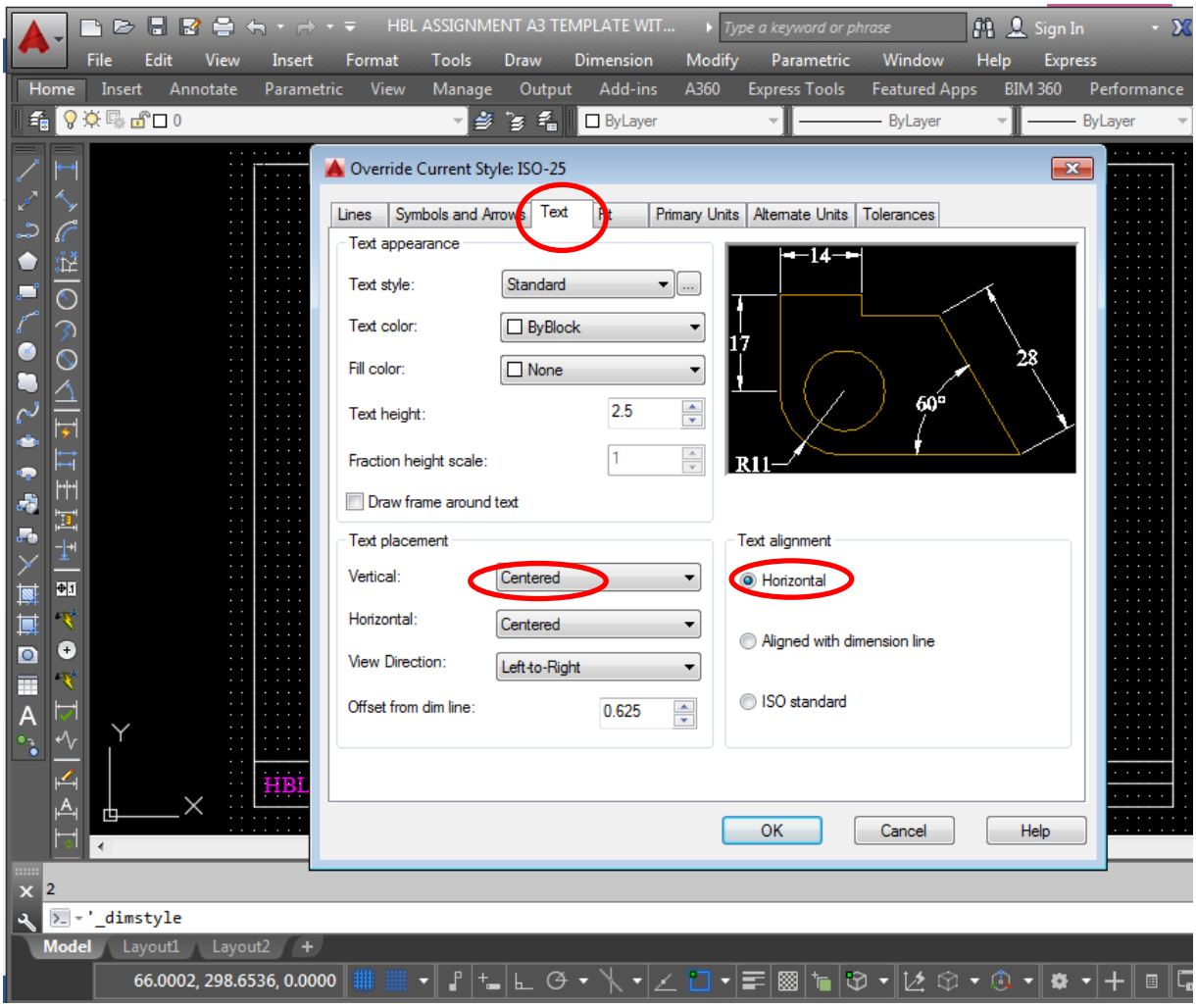


**Fig 2.3**- Text→Centered→Horizontal

Click Tab: **Text**

Under Text Placement, Change & select: **Centered**

Under Text Alignment, Change & select: **Horizontal**

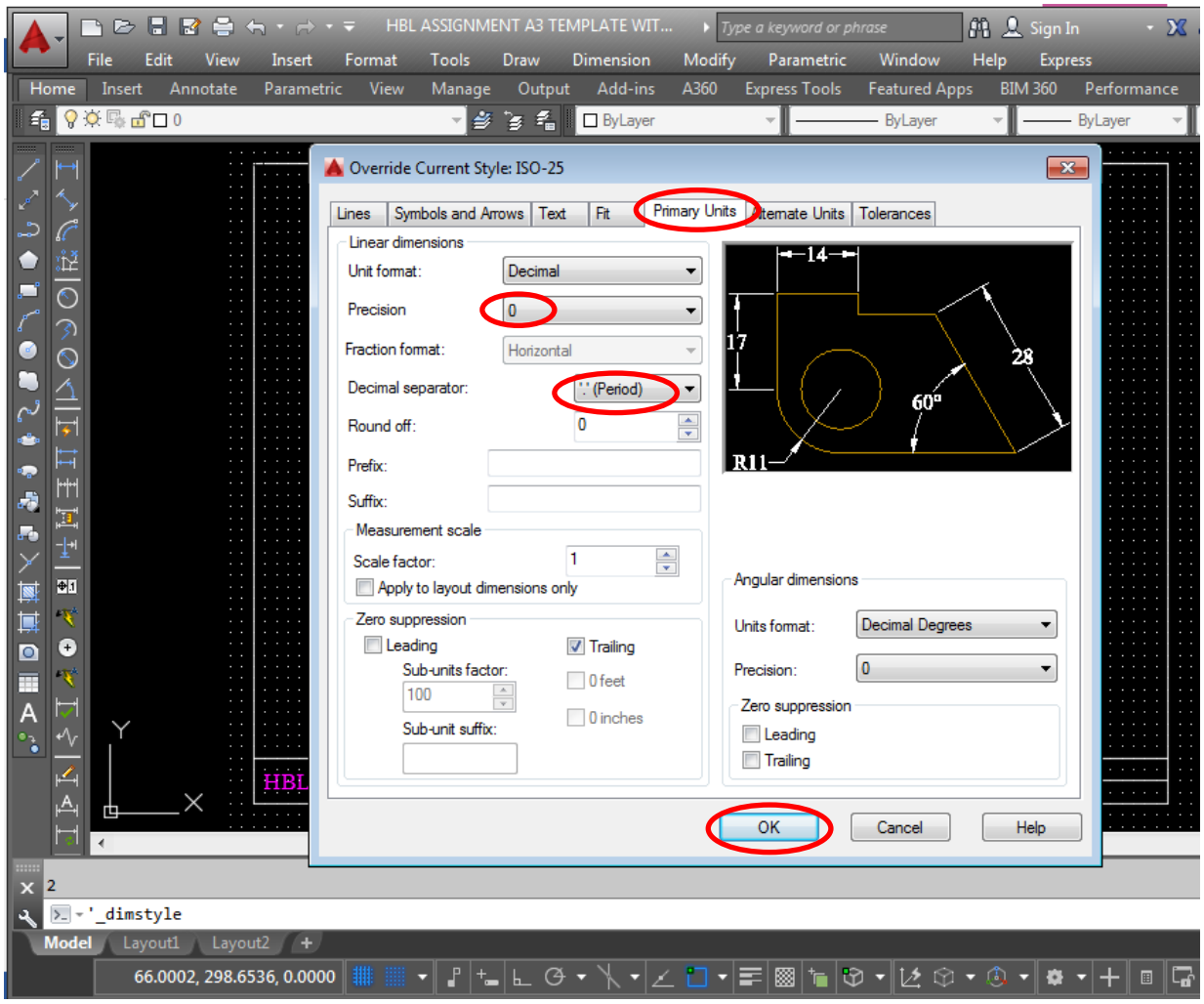


**Fig 2.4**- Primary Units→Precision “0”→”.” Period

Select Tab: **Primary Unit**

Under Linear Dimensions, set Precision: **0**

Set Decimal separator: **“.” period**

Click: **OK**

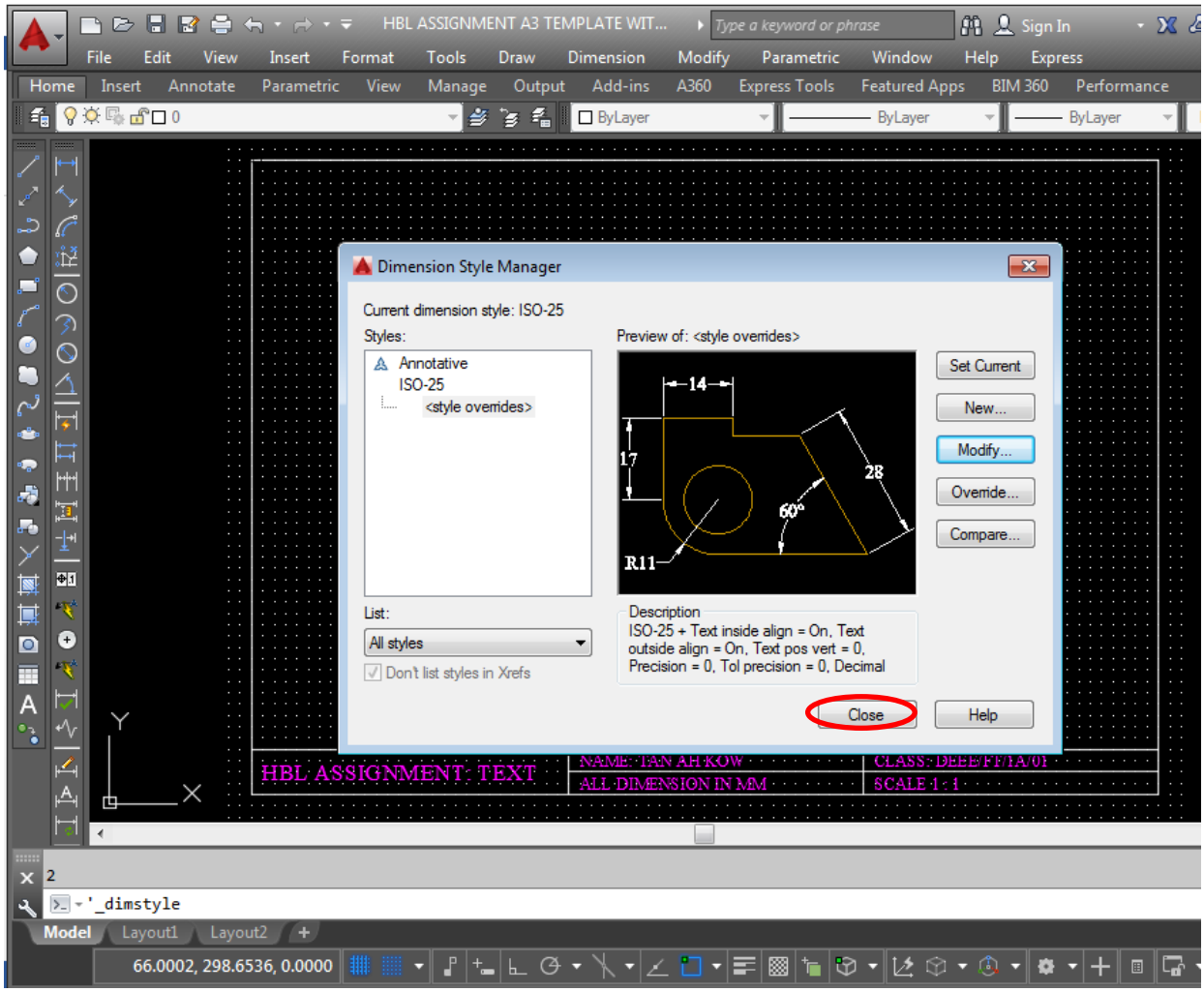


**Fig 2.5**- Close to complete Dimension settings

Click: **Close**

You have **completed the Dimension settings** on AutoCAD2016.

Now you can **start AutoCAD2016 dimensioning to the objects** in HBL Practice and Assignment drawings.

# 3. DIMENSION & MULTILEADER TOOLBAR

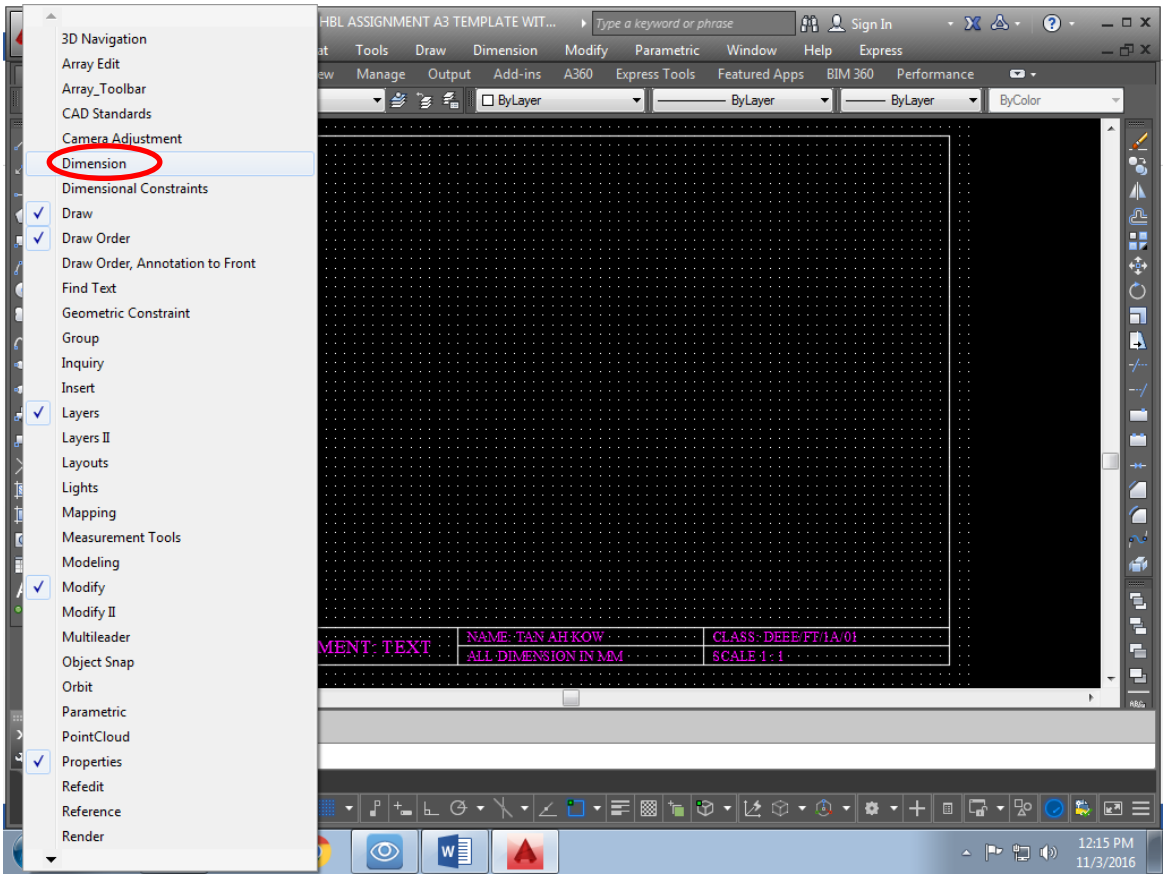


**Fig 3.1**- Activate Straight Dimension Toolbar

If **straight dimension toolbar** is **not activated** (i.e. not visible),

**Right Click on any existing toolbars, a dialogue box of many toolbars will appear.**

**Select Dimension.**

**Dimension toolbar** will **appear** shown below.

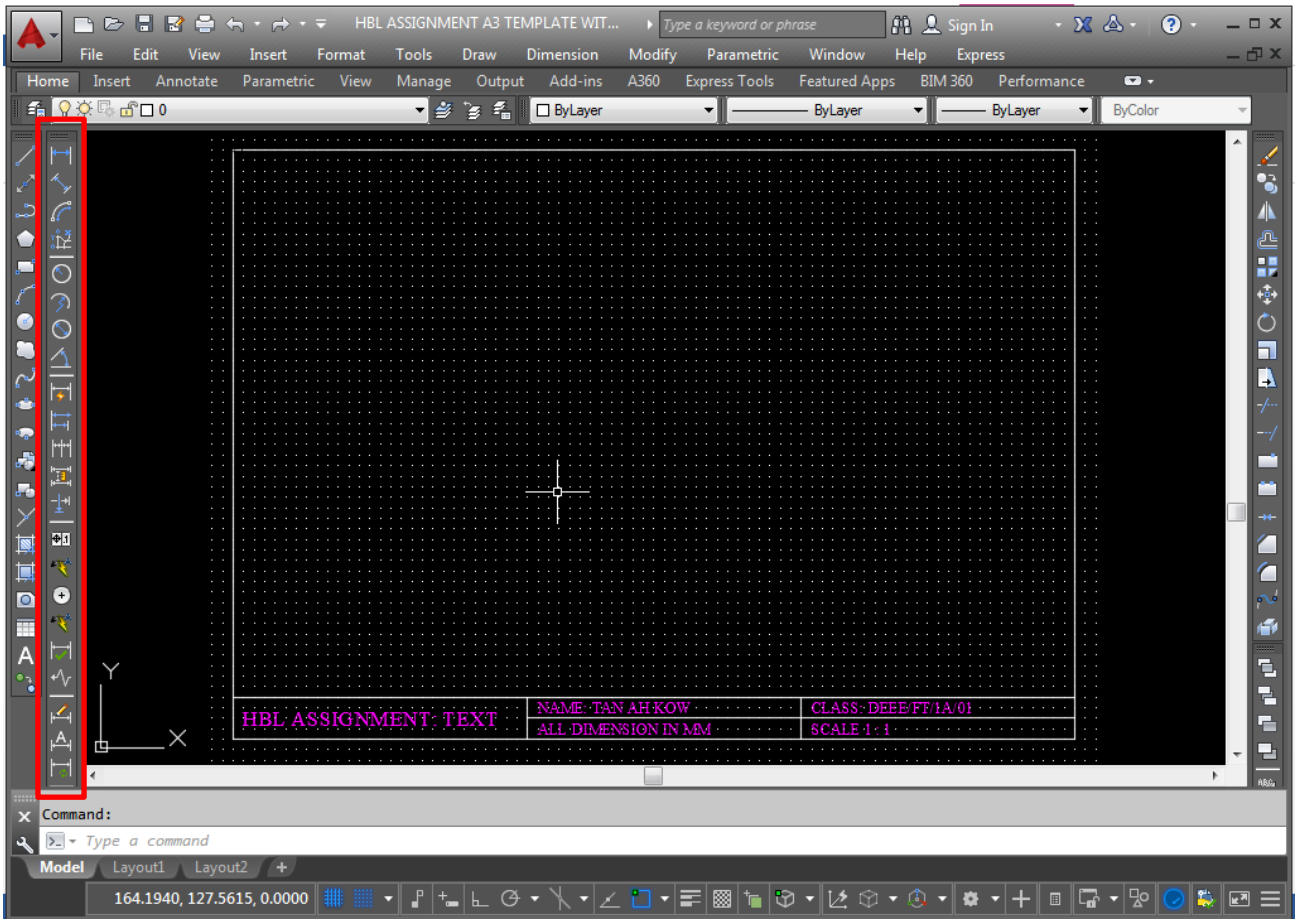


**Fig 3.2**- Straight dimension Toolbar is created

**Similarly, right click any toolbars again, this time select Multileader shown below:**

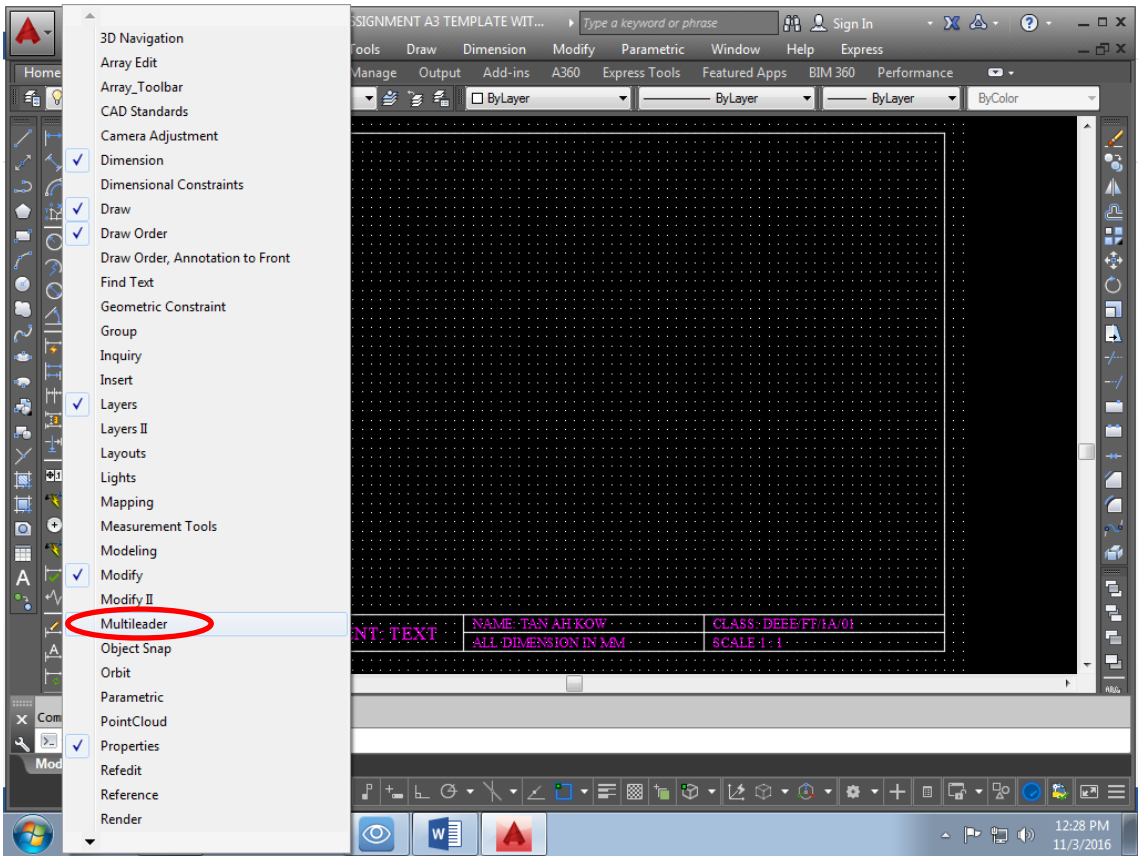


**Fig 3.3**- Select Multileader

**Multileader toolbar** is **created** in your AutoCAD drawing shown below:

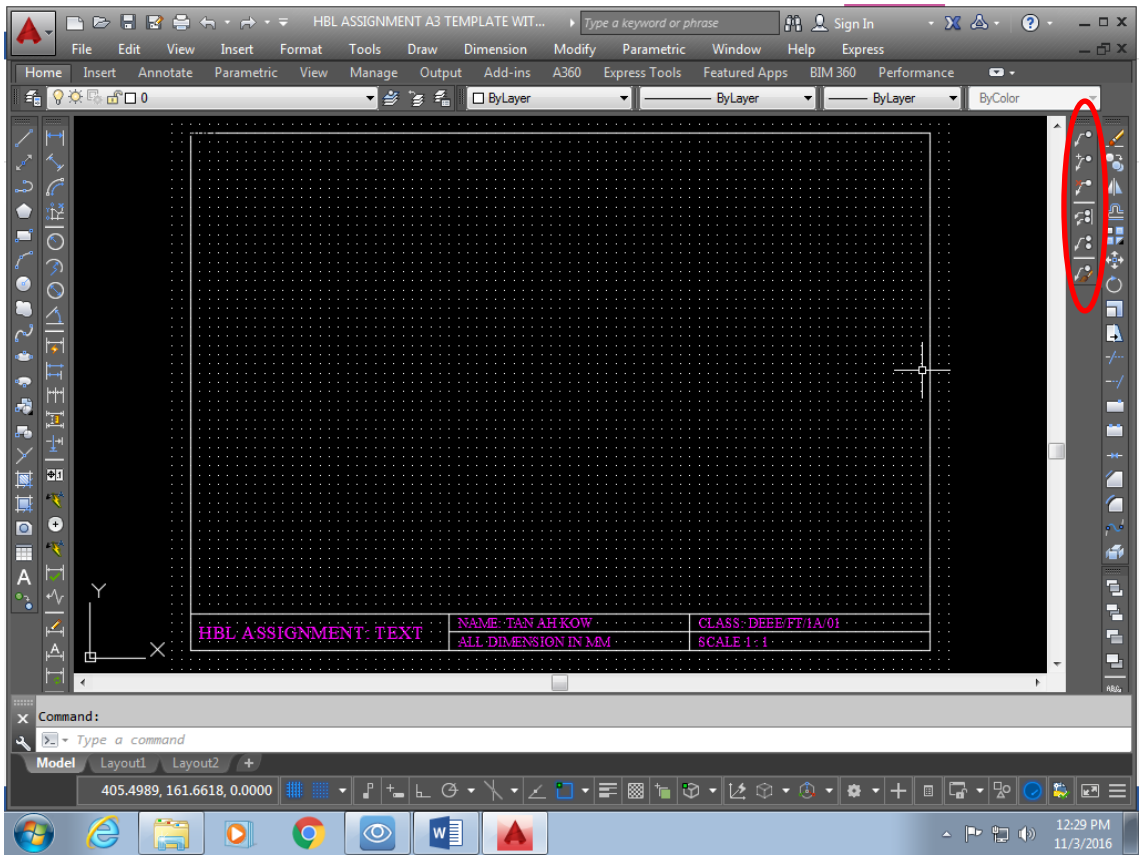


**Fig 3.3**- Multileader Toolbar is created

Now you can begin dimensioning your drawings with these toolbars: **DIMENSION & MULTILEADER.**

# 4. BASIC DIMENSION COMMANDS

Draw an object shown in the diagram below so that basic commands can be demonstrated.

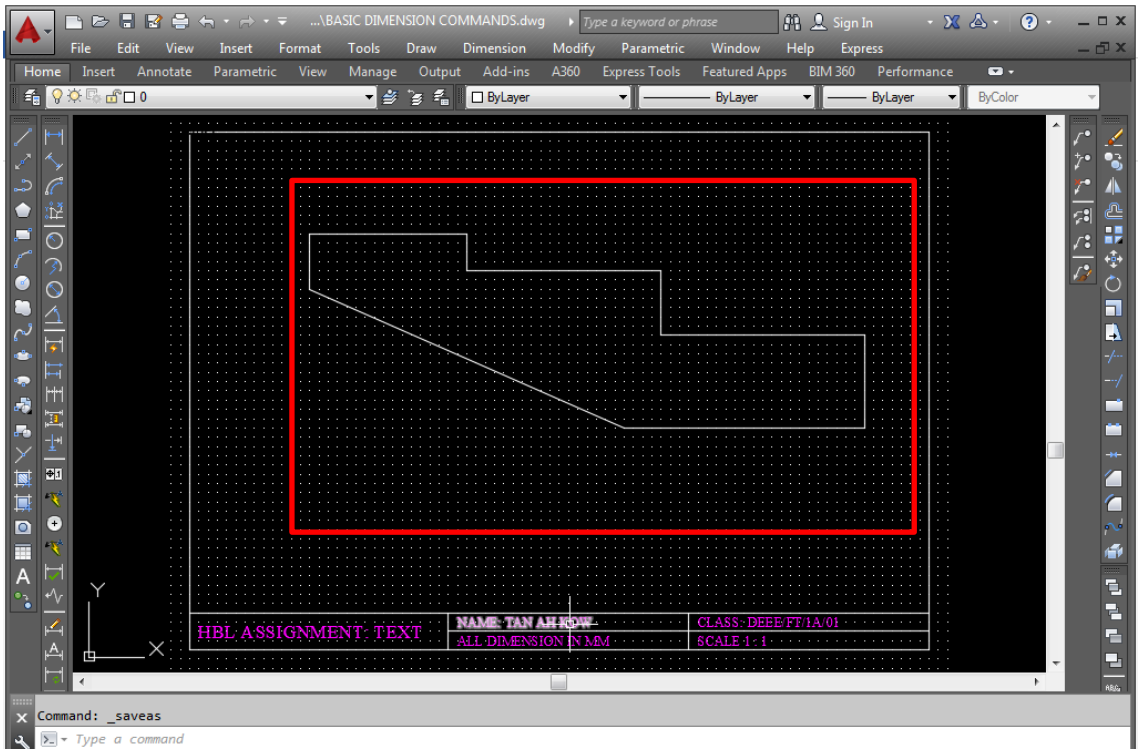


**Fig 4.1**- Draw an object of a staircase

## A) LINEAR

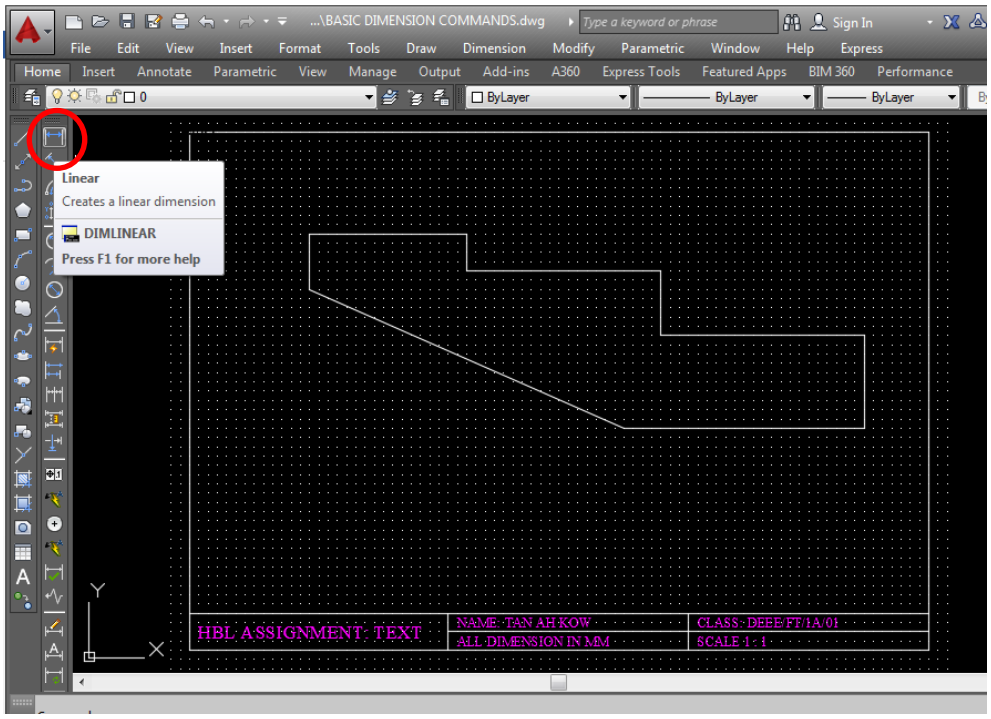


**Fig 4.2**- Click **Linear** icon

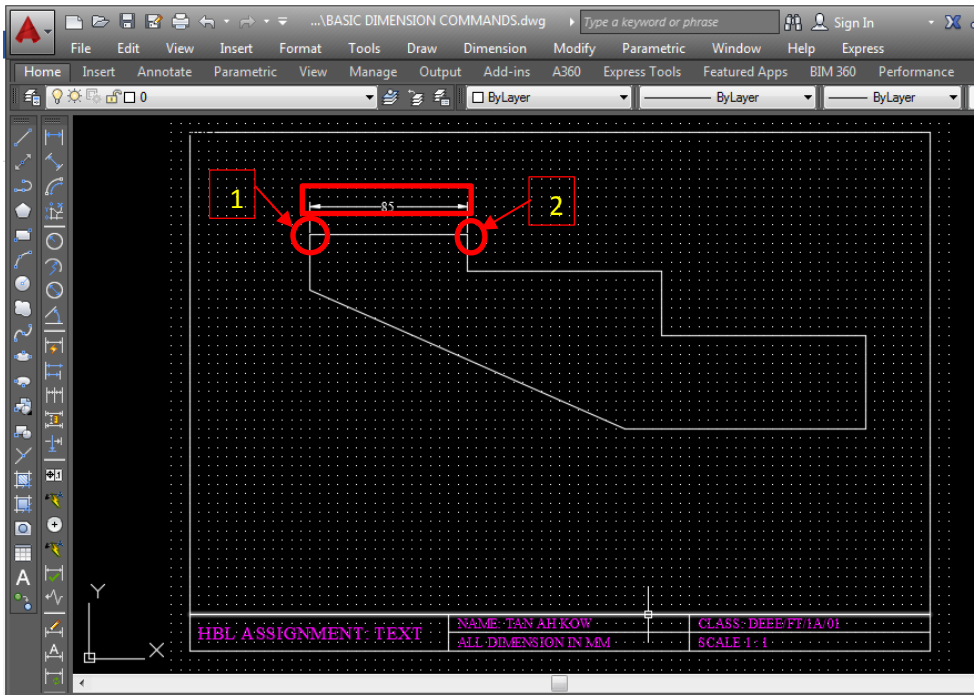


**Fig 4.3**- Click **edge 1.** Next click **edge 2**. Finally, drag mouse to **place linear dimension above the horizontal object**.

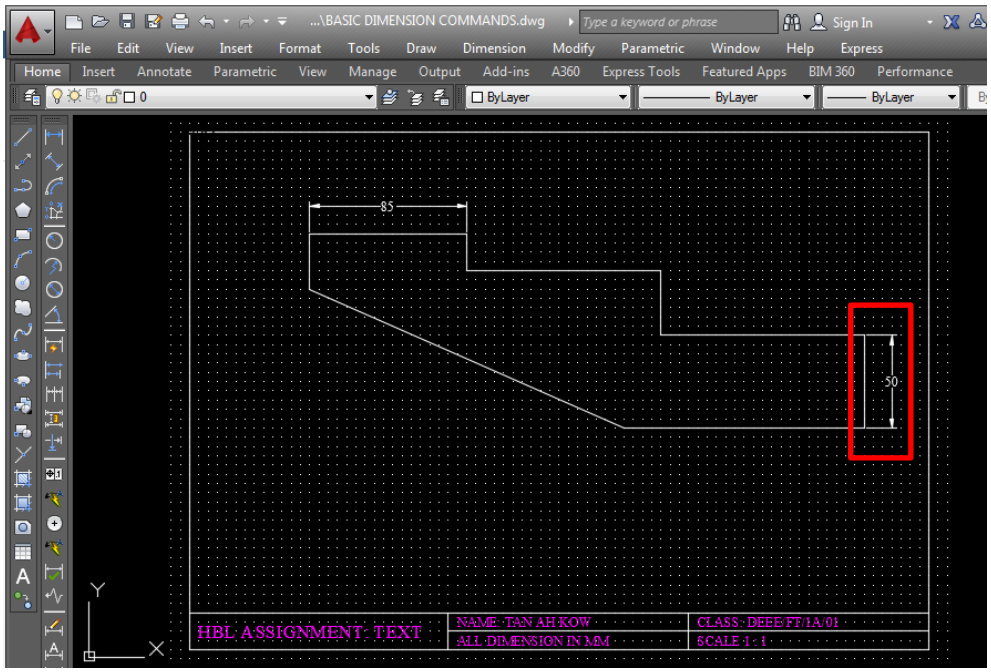


**Fig 4.4**- **Dimension Linear** can also **place vertically** using the same procedure as Horizontal placement.

## B) <u>CONTINUE</u>

Dimension Continue is use to **continue dimension in a straight line** after a linear dimension is created.

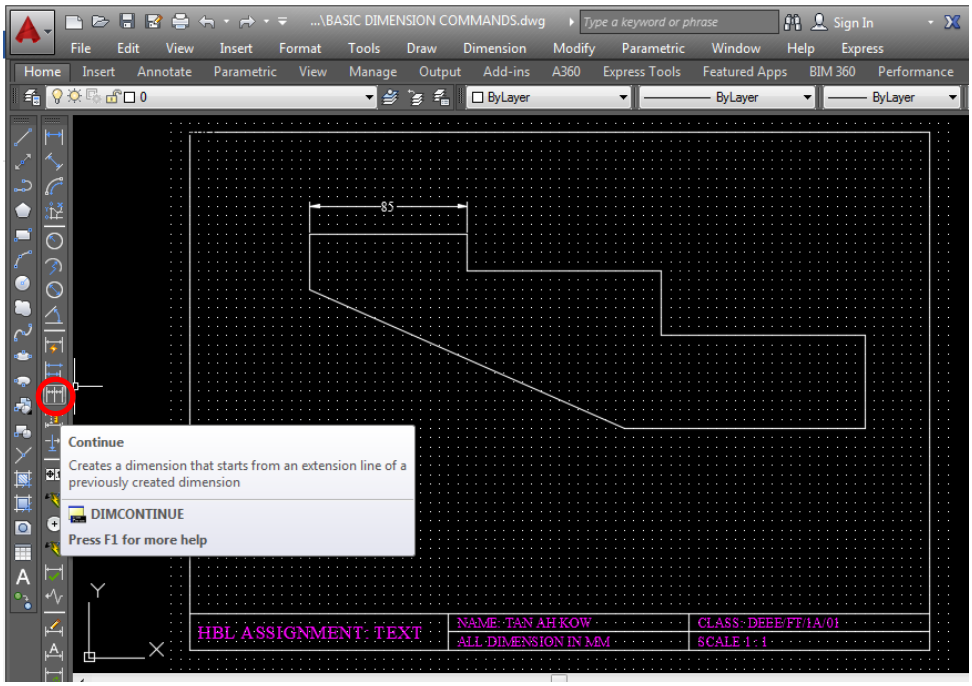


**Fig 4.5**- Click **Continue** icon

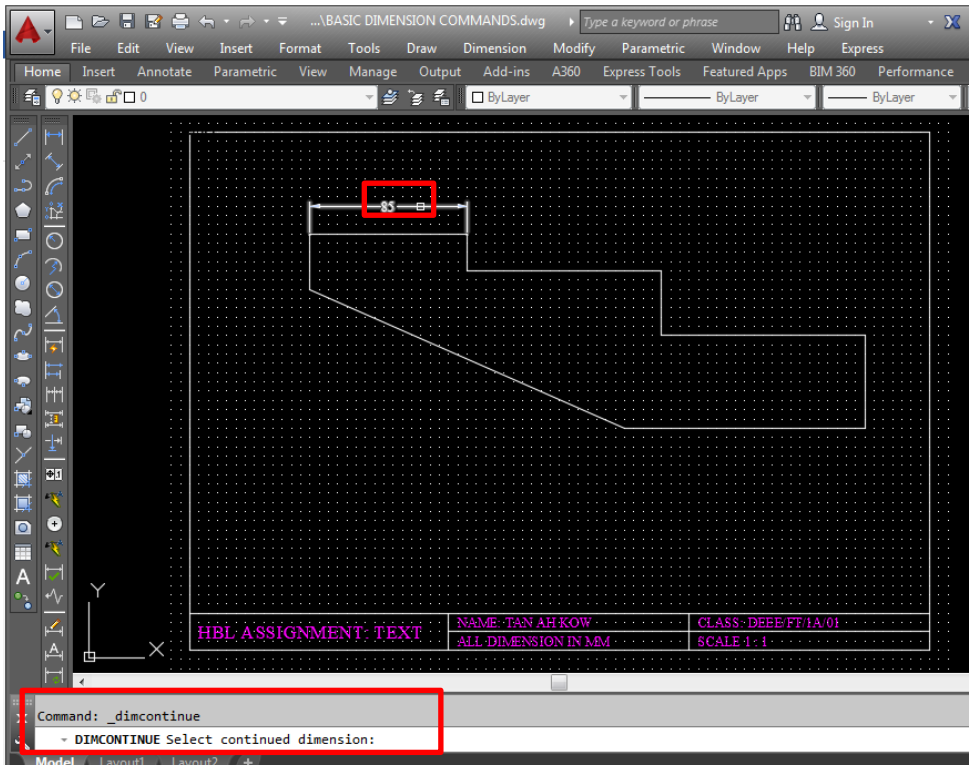


**Fig 4.6**- Select the **Linear dimension** previously created

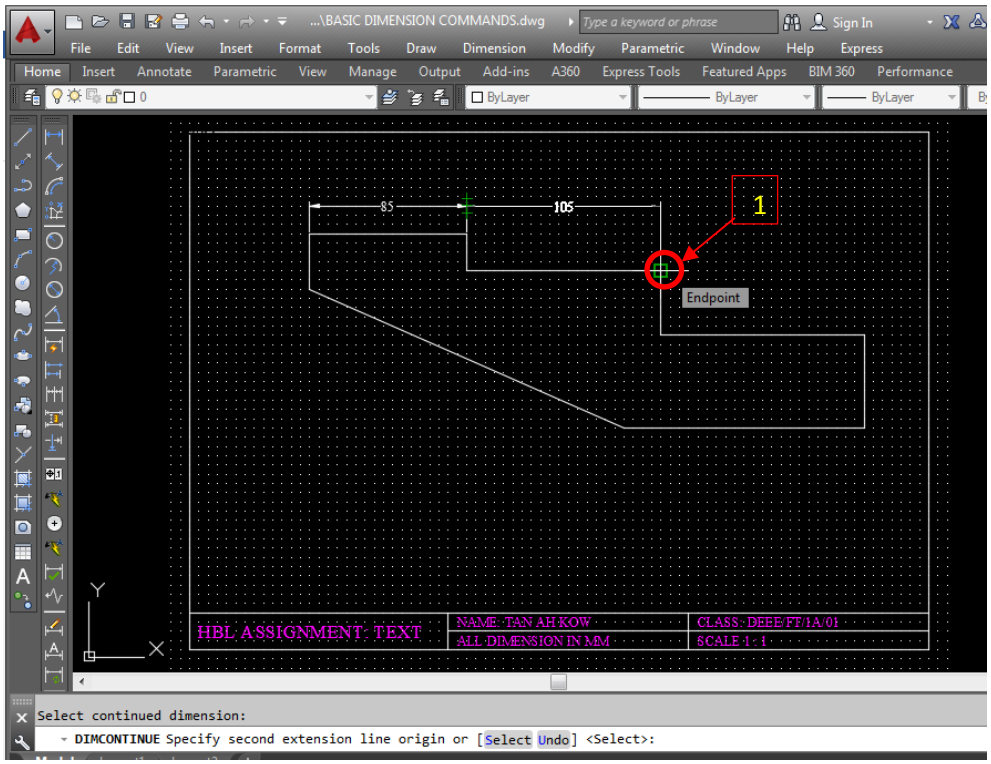


**Fig 4.7**- Drag cursor to **edge 1.** A **continued dimension 105mm** appears. **Click on edge 1** to complete. Continue to **click edge 2** and a continue

dimension appear as shown in Fig 4.9. This will be **very efficient and neat in placing all dimensions in a straight line.**

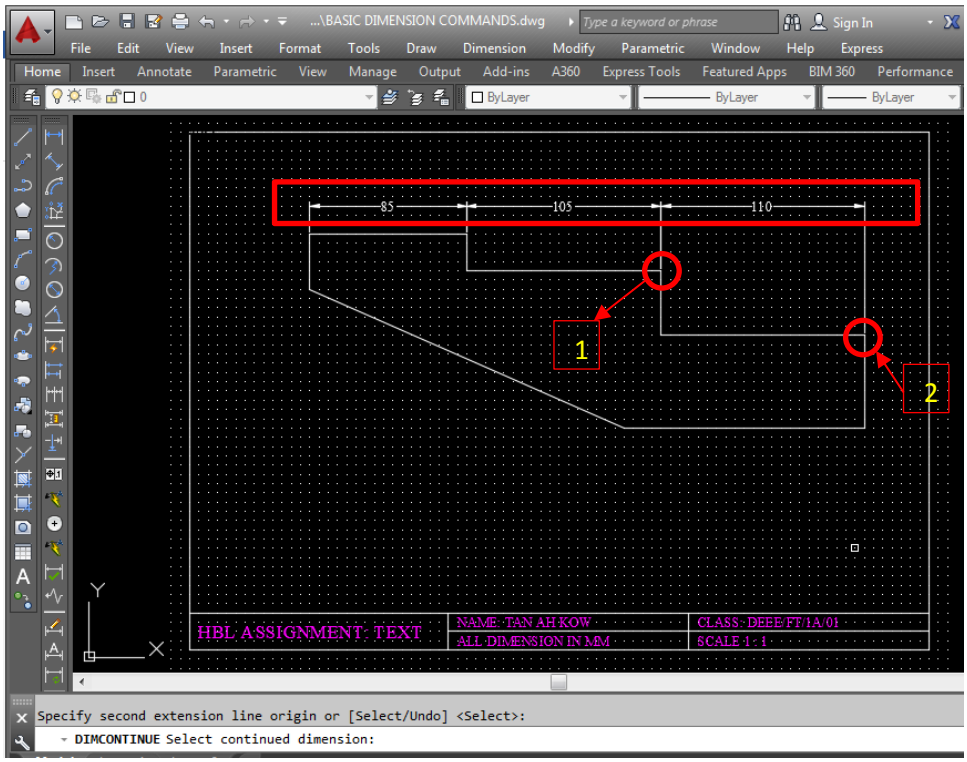


**Fig 4.8**- Dimension Continue display dimensions in a straight line as shown in red rectangle.

## C) BASELINE

Specifying **dimension Baseline is dimensioning the various length linearly from a common point.**

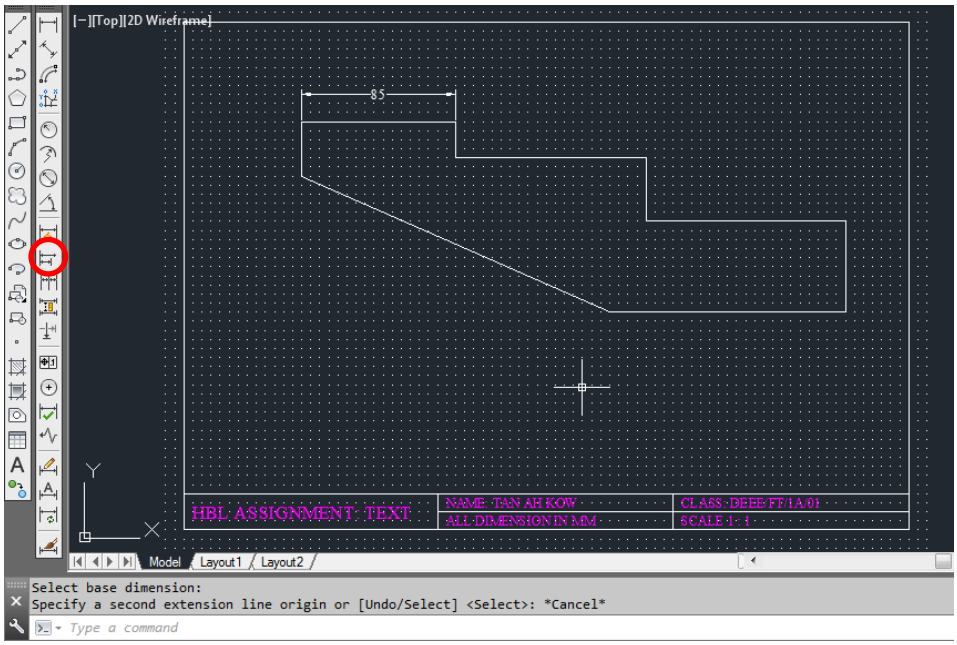


**Fig 4.9**- First, Dimension linear 85 as shown. Then, Click **Baseline** icon as circled in red.

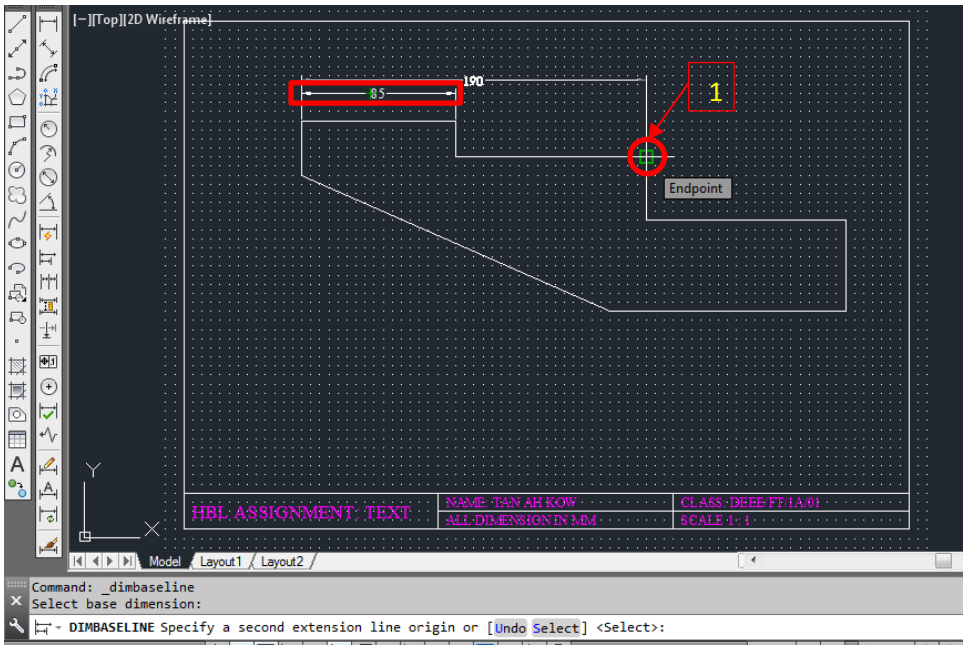


**Fig 4.10- Click dimension 85** and then **place cursor** at **edge 1 & enter.**

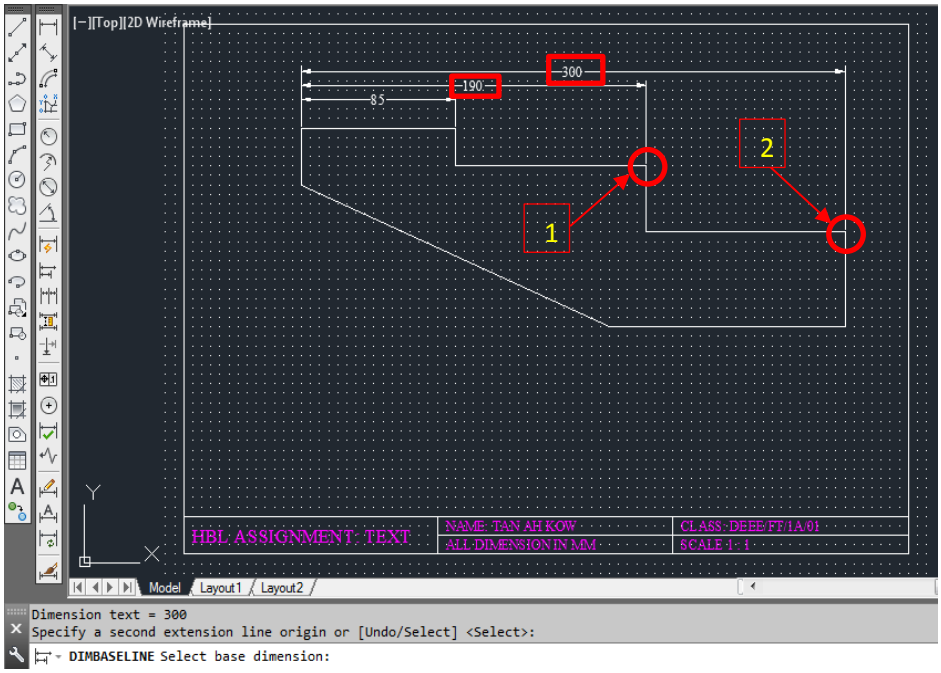


**Fig 4.11- Baseline dimension 190 appears as shown. Click on edge 2 to produce another baseline dimension 300.**

## D) ALIGNED

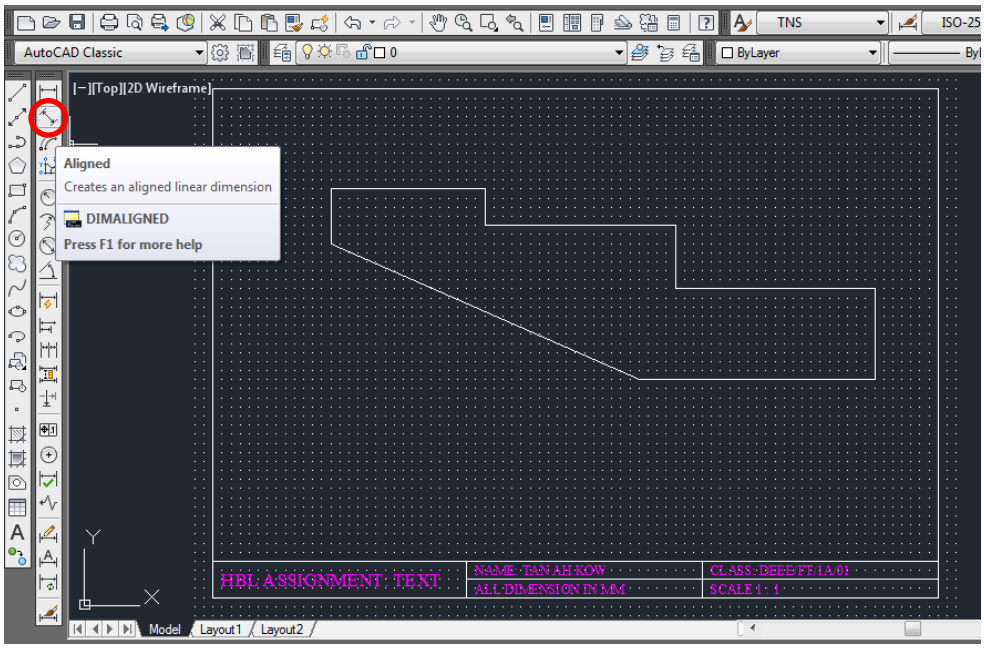


**Fig 4.12**- Click **Aligned** icon

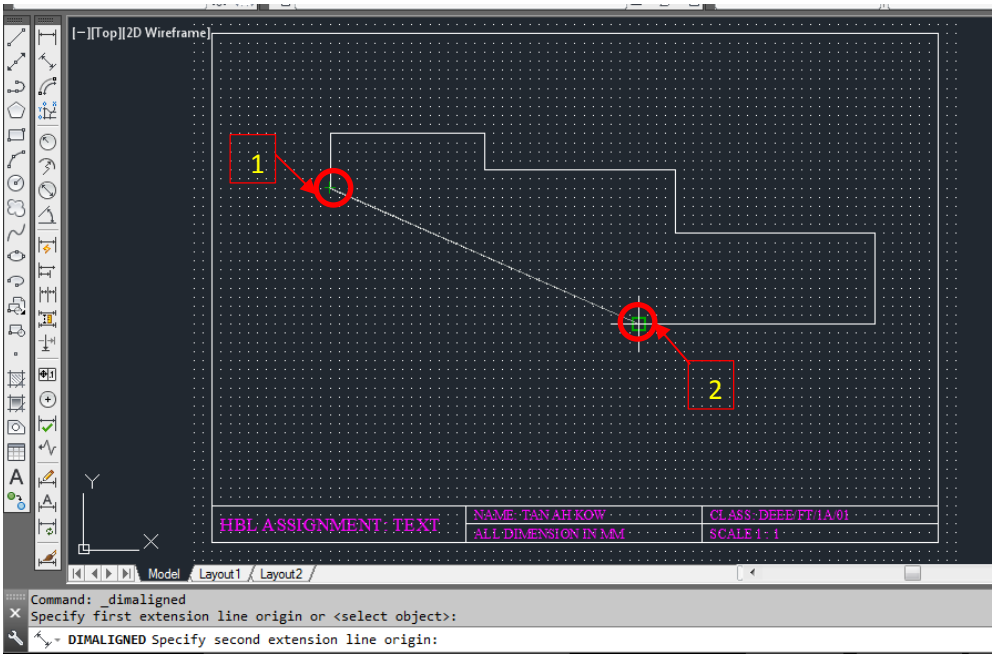


**Fig 4.13**- Specify 1st extension line **edge 1**. Next specify 2nd extension line **edge 2**.

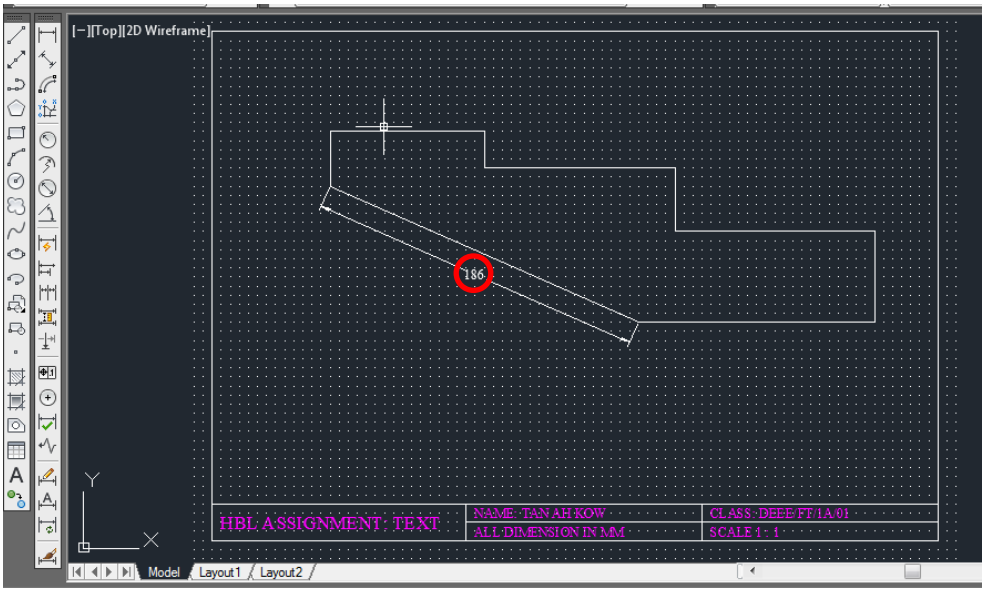


**Fig 4.14**- Drag cursor to the location required and click the mouse. **Aligned dimension text** is now placed as circled in red.

# E) ANGULAR

## Angle subtended between two lines.

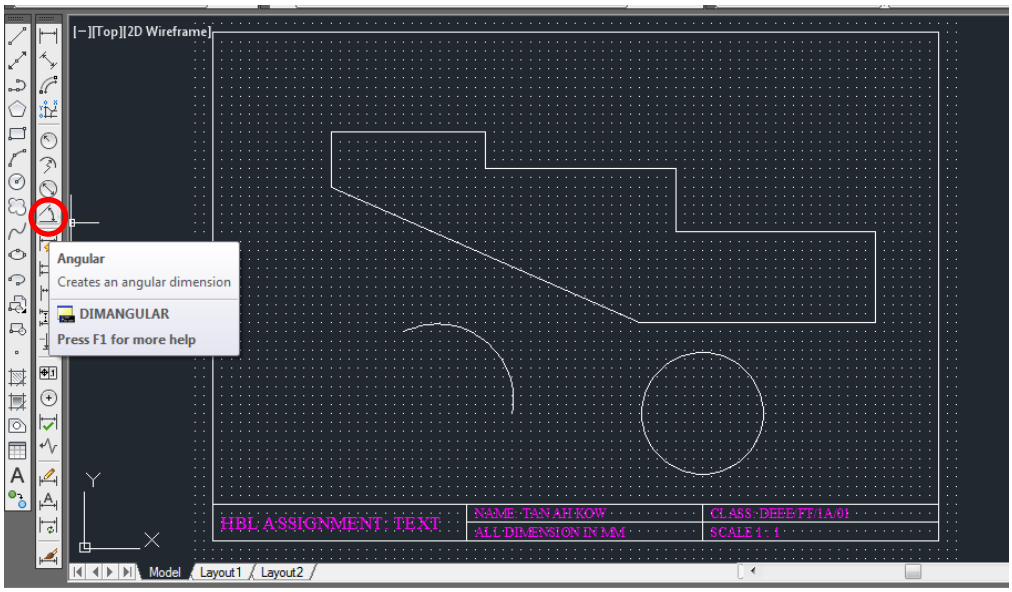


**Fig 4.15**- Click **Angular** icon

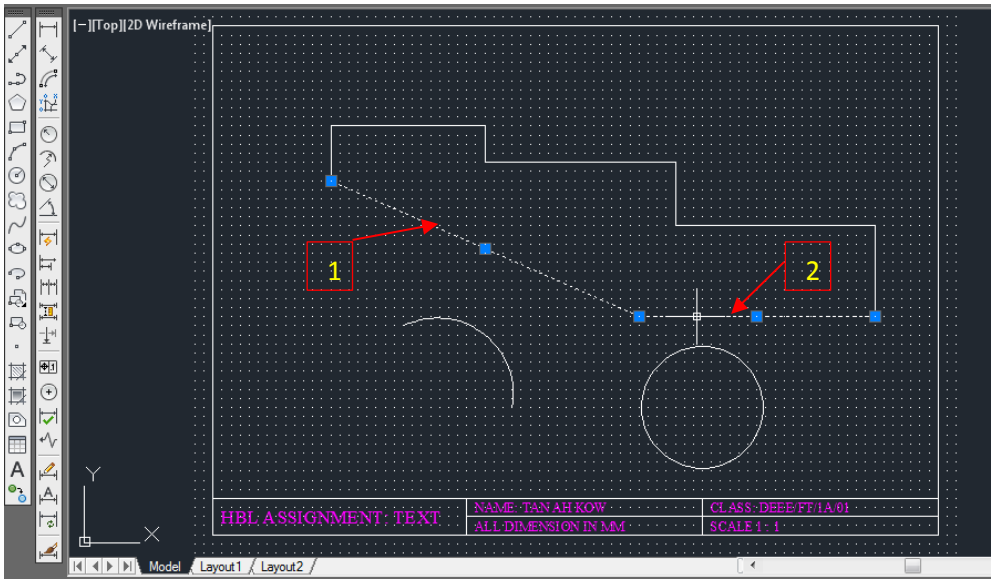


**Fig 4.16**- Click on **line 1** and then **line 2.**

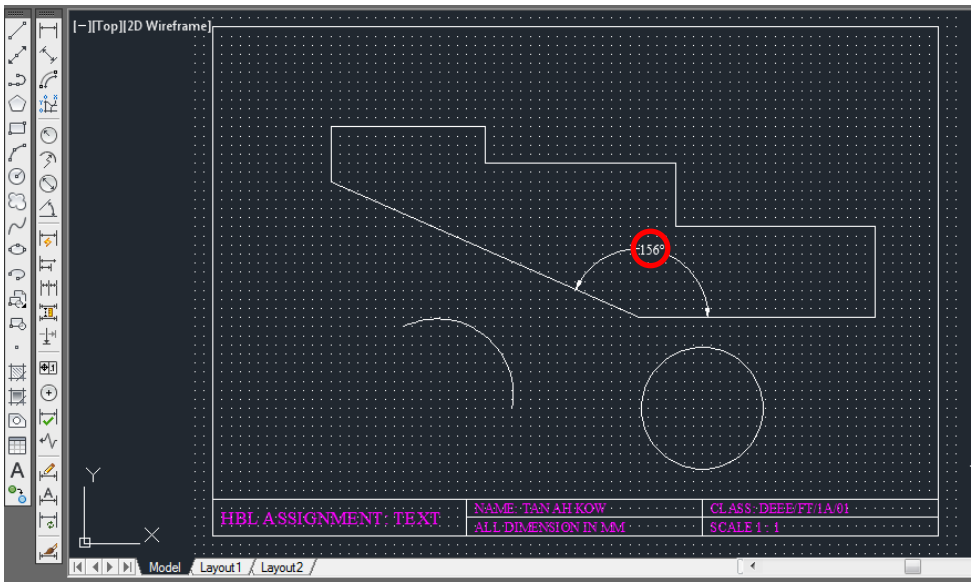


**Fig 4.17**- Then move cursor to required location and click to **place the angular dimension text** as circled in red.

**Angle subtended by arc.**

Click angular icon as shown in Fig 4.13. Next click the arc 3.

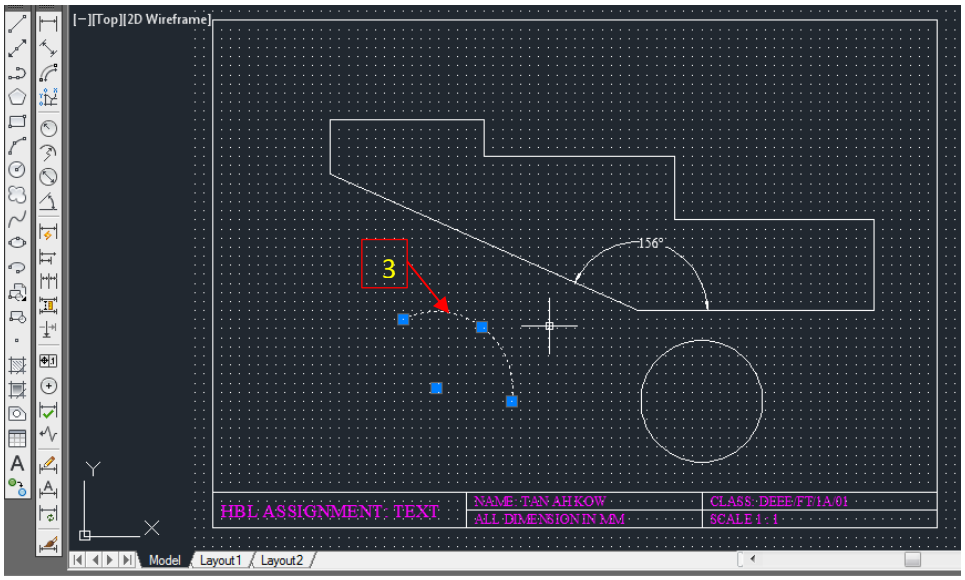


**Fig 4.18**- Select the **arc** for angular dimension

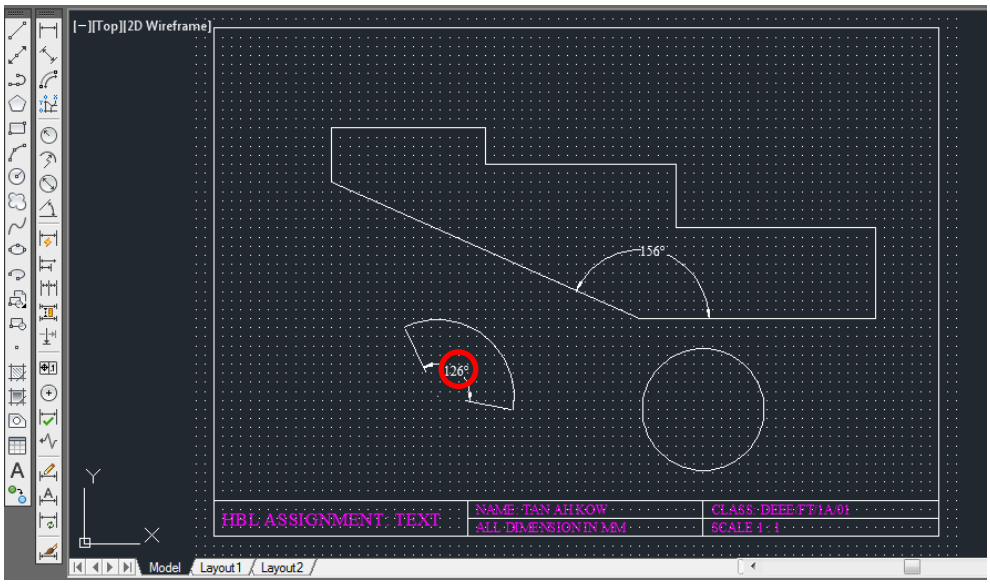


**Fig 4.19**- Place the **angular dimension text** as shown in red circle.

## F) CENTER MARK

Placing **center mark on arc and circle**.

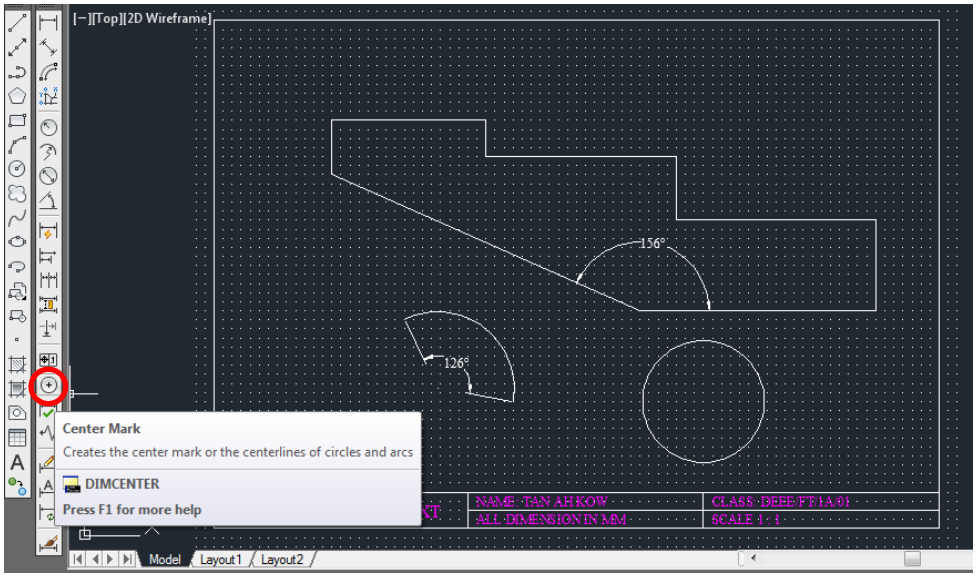


**Fig 4.20**- **Click Center Mark** icon

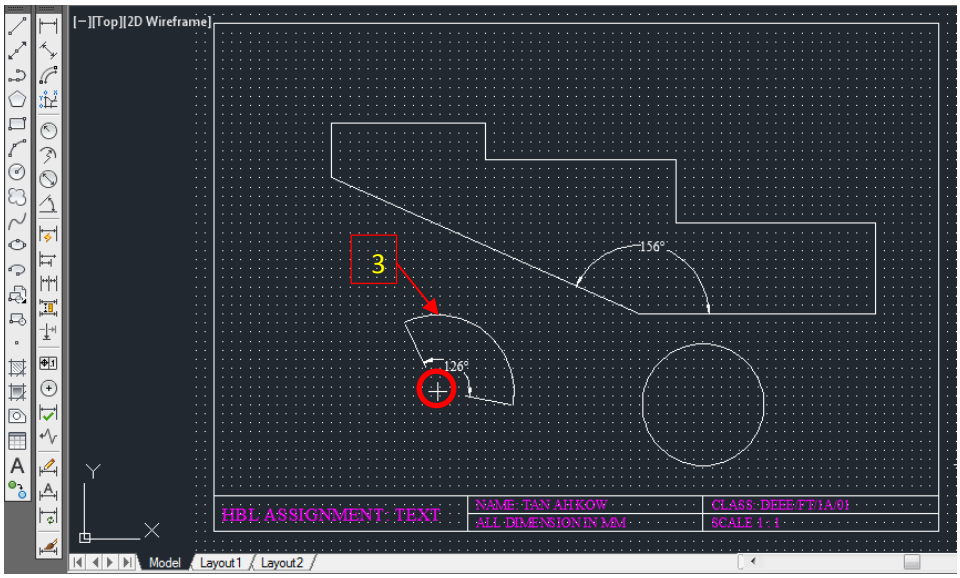


**Fig 4. 21**- Next, click on **arc labelled 3** and the **center mark appears** as circled in red.

Similarly do the same for center mark on circle. **Click Center Mark icon** as shown in Fig 4.20. Next **click the circle**. The Center Mark appears in circle as circled in red in Fig 4.22.

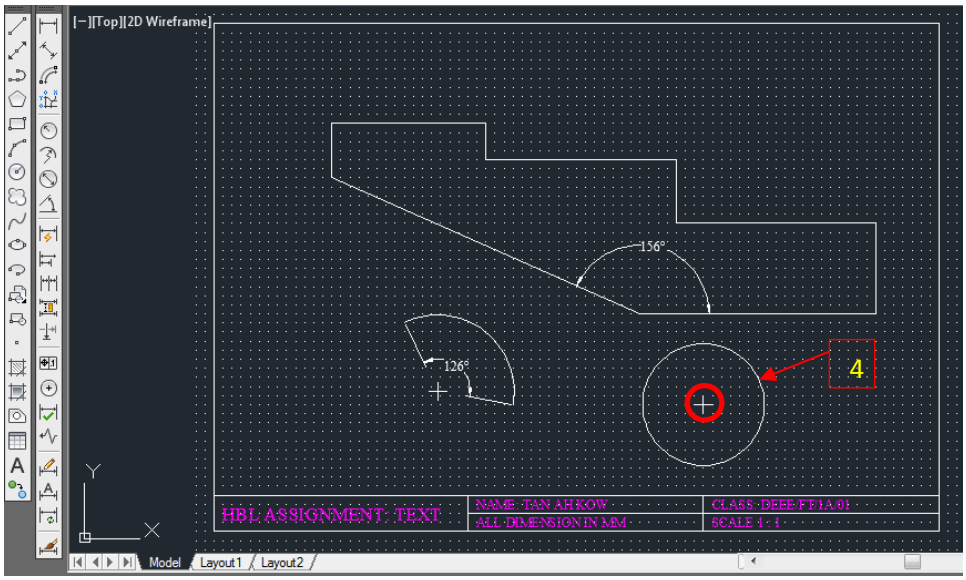


**Fig 4.22**- **Centre Mark on circle labelled 4** as circled in red

## G) RADIUS

Specifying dimension **radius** on **arc or circle**

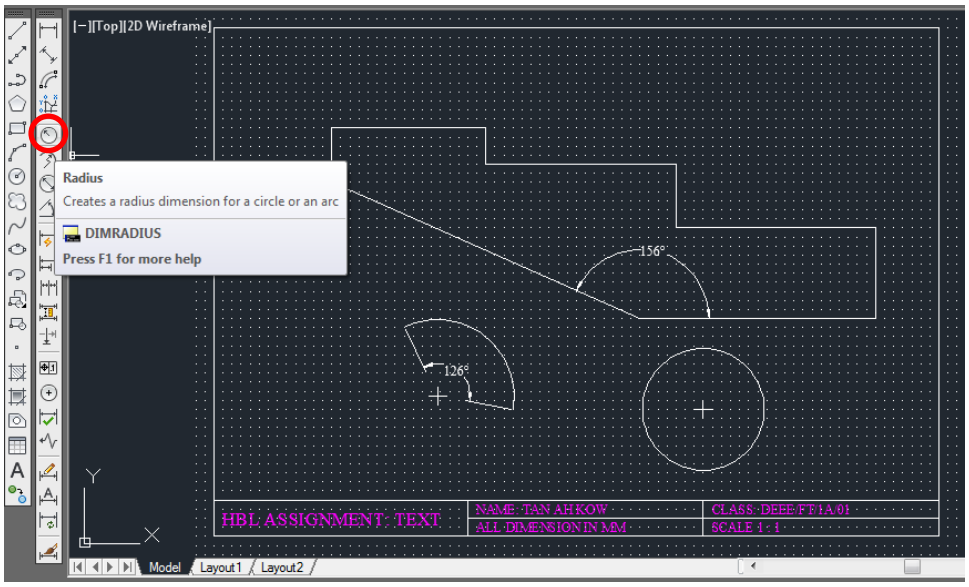


**Fig 4.23**- Click **Radius** icon

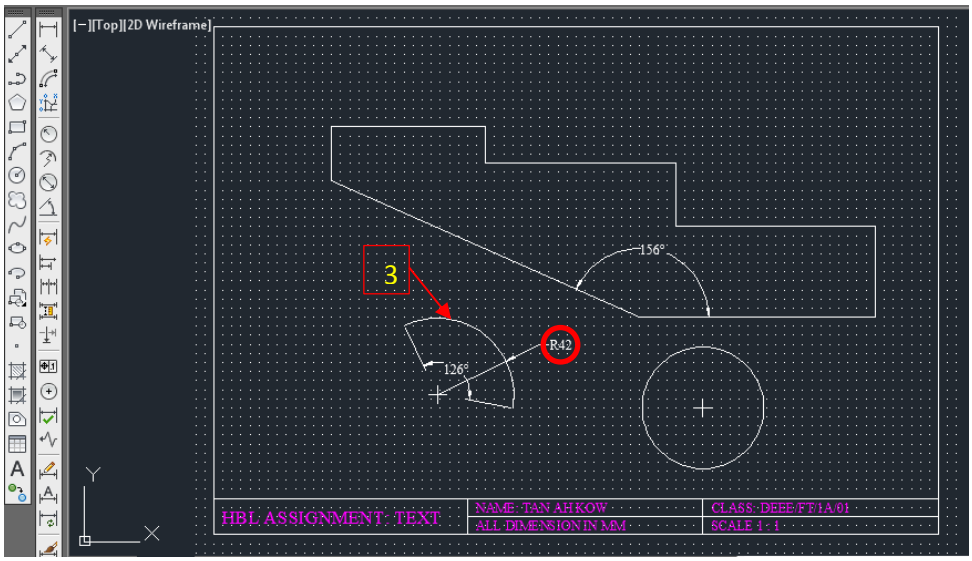


**Fig 4.24**- Click **arc labelled 3**. Then, drag cursor to location required and **place radius dimension** as circled in red.

Similarly, to **dimension radius of a circle**, **click radius icon** as shown in Fig 4.21, then **click on the circle labelled 4**. Drag mouse to required location and **place radius dimension** as circled in red.

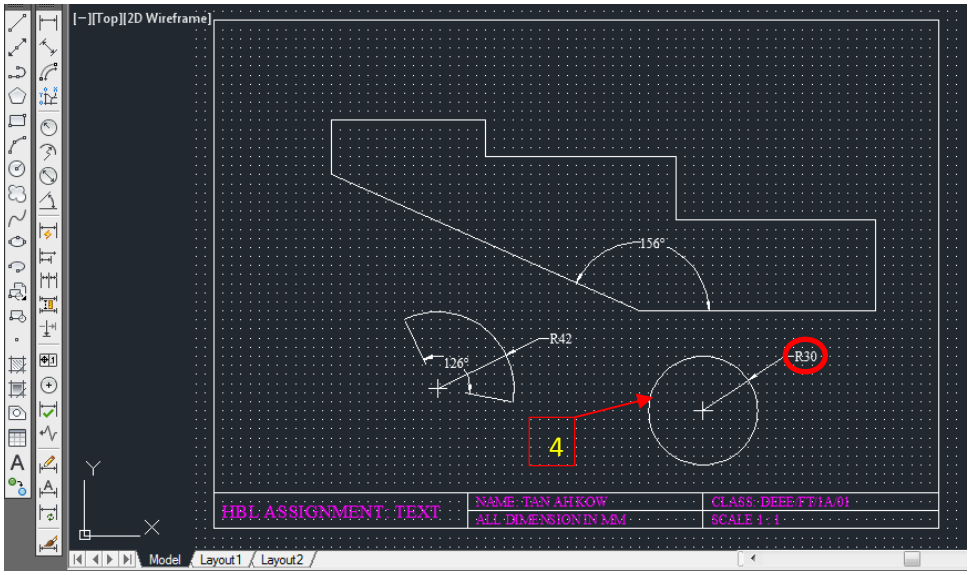


**Fig 4.25**- **Click circle** labelled 4. Drag cursor to required location and **place radius dimension** as circled in red.

## H) <u>DIAMETER</u>

Specifying **dimension Diameter** in **arc or circle**.

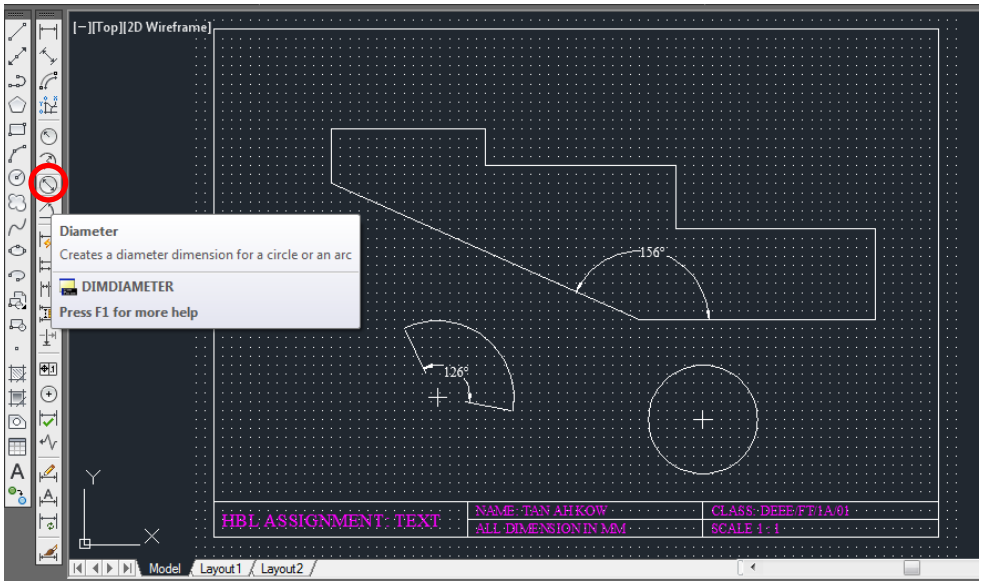


**Fig 4.26**- Click on **Diameter** icon

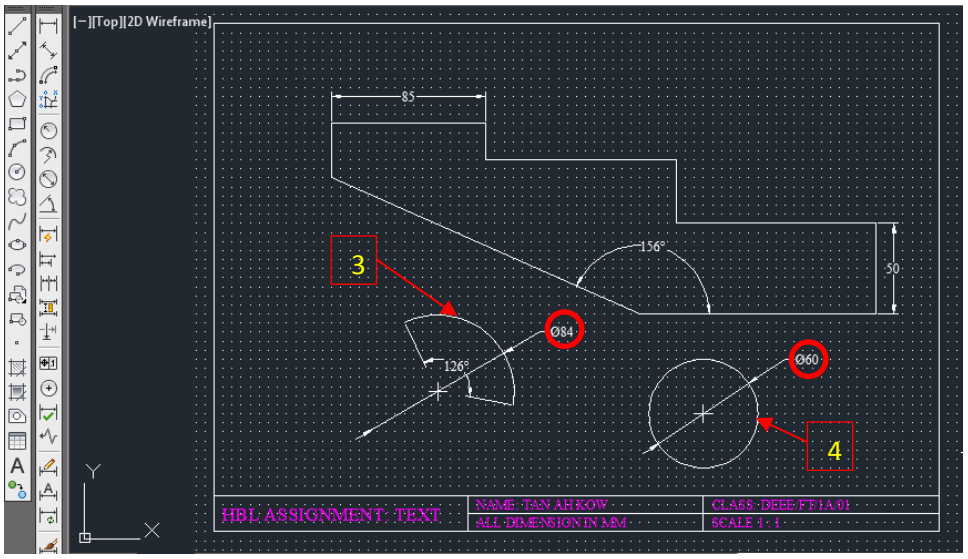


**Fig 4.27**- Click on **Arc labelled 3** and then drag cursor to **place dimension** diameter of 84.

Similarly to **place diameter of circle**, click **Diameter icon** again. Click on **Circle labelled 4** and drag cursor to **place the diameter** 60.

## I) LEADER

Specifying leader dimension is basically dimension a typed text complete with an arrow indicator.

Type shortcut "**le**" in keyboard and enter.

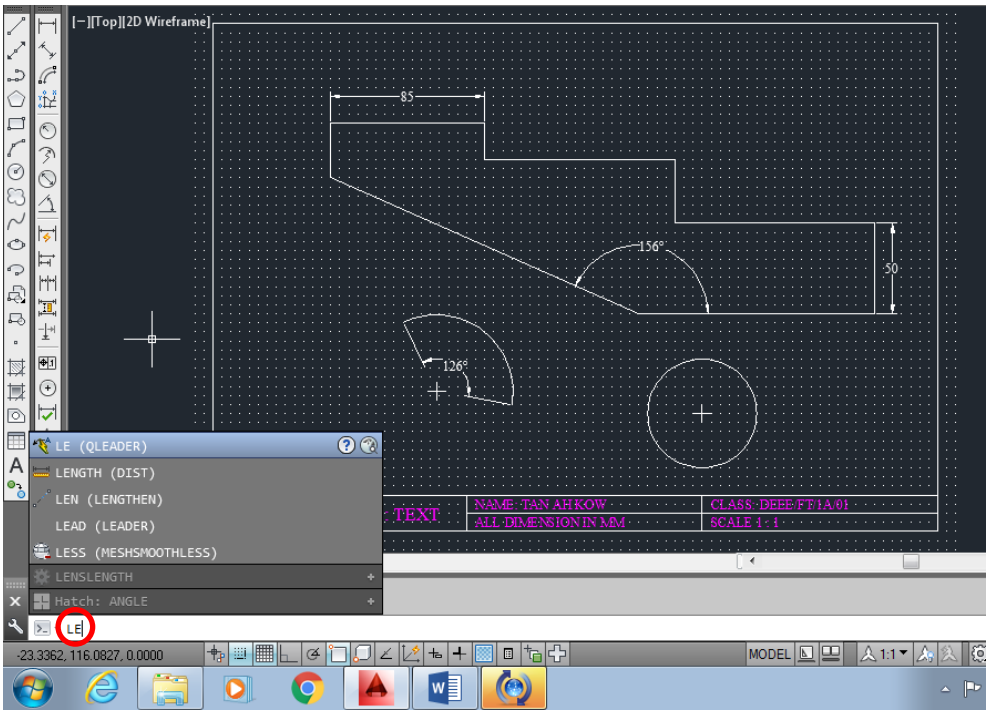


**Fig 4.28**- Type keyboard shortcut '**le**' for Quick Leader (**qleader**)

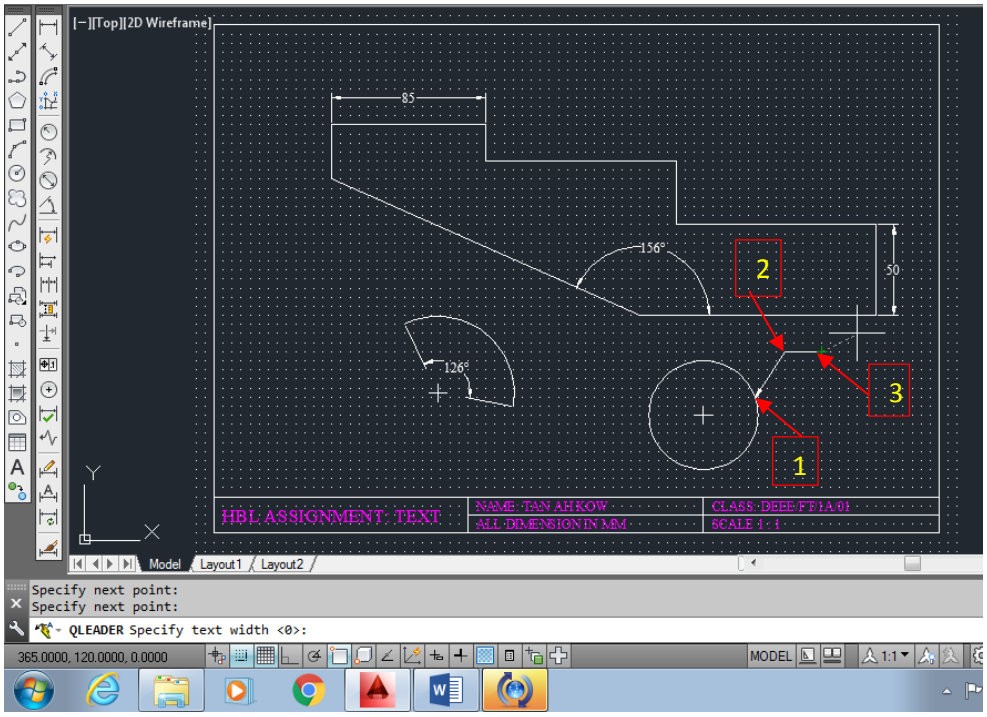


**Fig 4.29**- Click on circle at **point 1**, next click at location **point 2** and finally click at location **point 3 (Note: Point 2 & 3 are Horizontal)**. Next, enter **Specific text width <0> as default "0".**

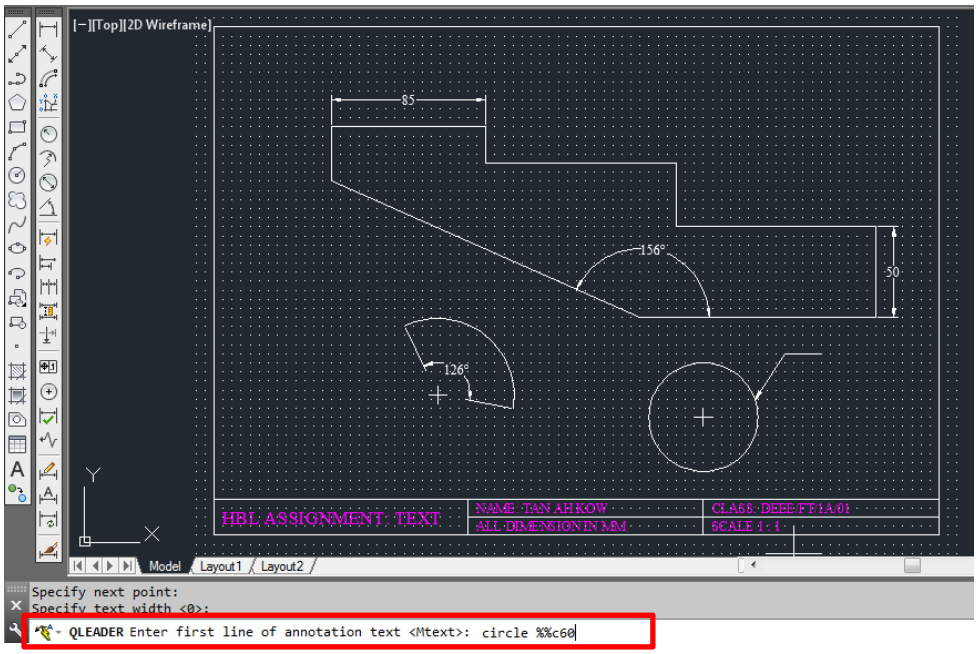


**Fig 4.30**- **Type the text** as follows: **circle %%c60** to represent **Circle of diameter 60** while the **%%c** represents **Greek symbol Phi**.

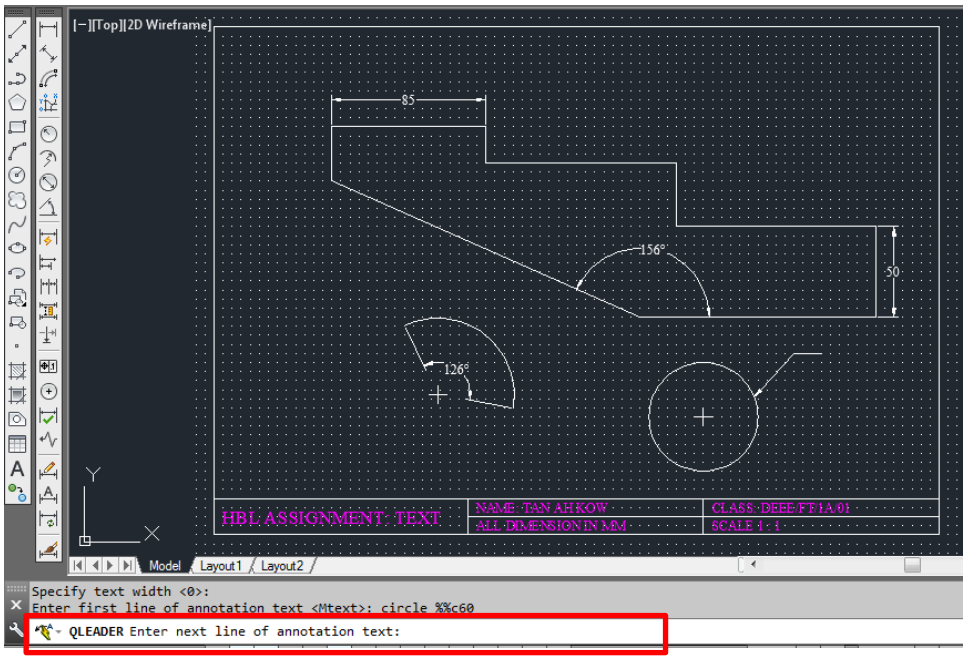


**Fig 4.31**- Just press **enter** for "**next line of annotation text**"

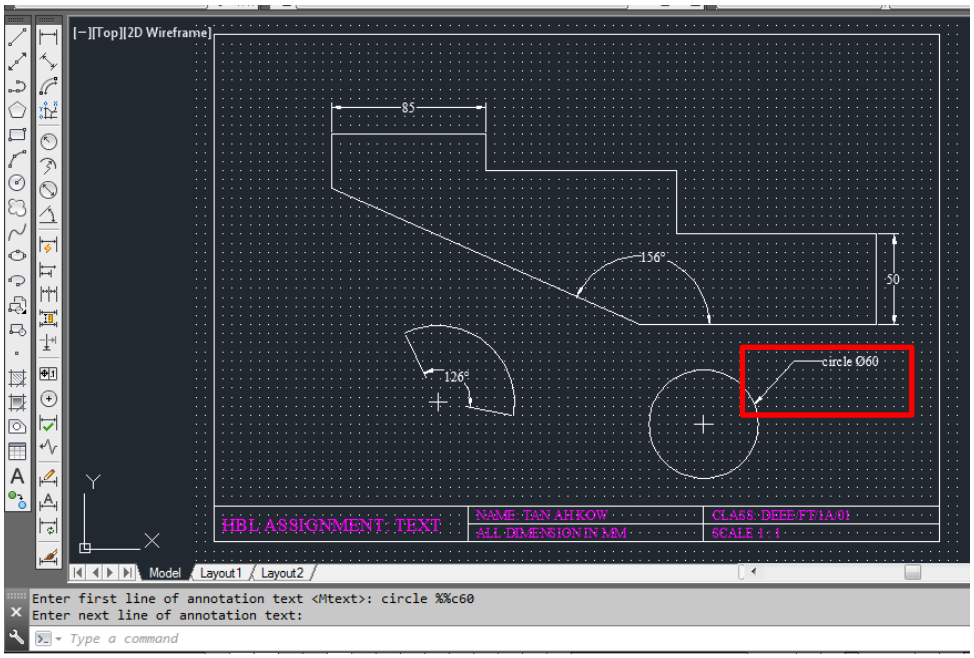


**Fig 4.32**- **Dimension leader** appears as shown in red box.