ISOMETRIC DRAWING EXERCISE (Submission deadline: Week 13- by 17/07, 5.00pm)

- Students to follow the guided instructions step by step to complete the exercise below.
- All students to **submit the Isometric drawing by Week 13, 17/07, 5.00pm** in:
- **BB→ GROUP→YOUR CLASS→GROUP DISCUSSION BOARD→FORUM-->ISOMETRIC EXERCISE SUBMISSION** or through lecturer's instruction
- Create Thread Name: **P1912345-TAN AH KOW-ISOMETRIC EXERCISE**
- Student AutoCAD File name: **P1912345-TAN AH KOW-ISOMETRIC EXERCISE.dwg**
- **Compulsory to submit Isometric Drawing feedback form immediately** after you have completed Isometric Drawing Exercise in URL below: **https://forms.gle/SKUnm5P6ryLoQDBQ9**

ISOMETRIC DRAWING

1. Insert all six frequently used toolbars as done in 2D drawings (Please see bounded notes Unit 1A, page 15 to 22)
2. Draw the border and title block as shown in Fig 1.
   i. Set paper Limits=250,250
   ii. Set Text Fonts to Times New Roman with Text Height =5mm (small Fonts)
   iii. Set Dimension Scale, typ dimscale = 1.5
   iv. Set Line Type scale, type lts = 0.5
   v. Set Layers: Dimension (Cyan), Text (Magenta), Centre Line [Red with linetype=Center)], Hidden Line [(Green with linetype = Hidden)]
   vi. Set the remaining three settings as per Unit 1 bounded notes
   vii. Border size = 10mm from edge of paper limits, i.e. rectangle size 230, 230
   viii. Title block dimensions are shown in drawing
   ix. Set the 6 frequently used toolbars: DRAW, DRAW ORDER, MODIFY, LAYERS, DIMENSION & PROPERTIES
3. Draw the isometric drawing shown below (FIG 1A):

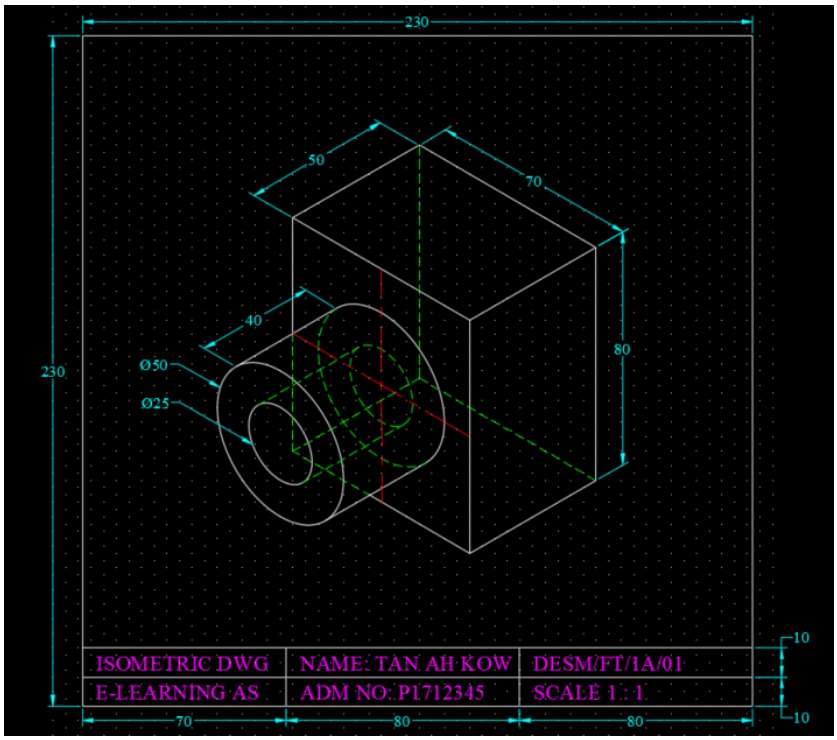

FIG 1A

STEP BY STEP GUIDE TO DRAW THE ISOMETRIC DRAWING

4. Follow the step by step guide shown below by drawing the border & title block (FIG 1):

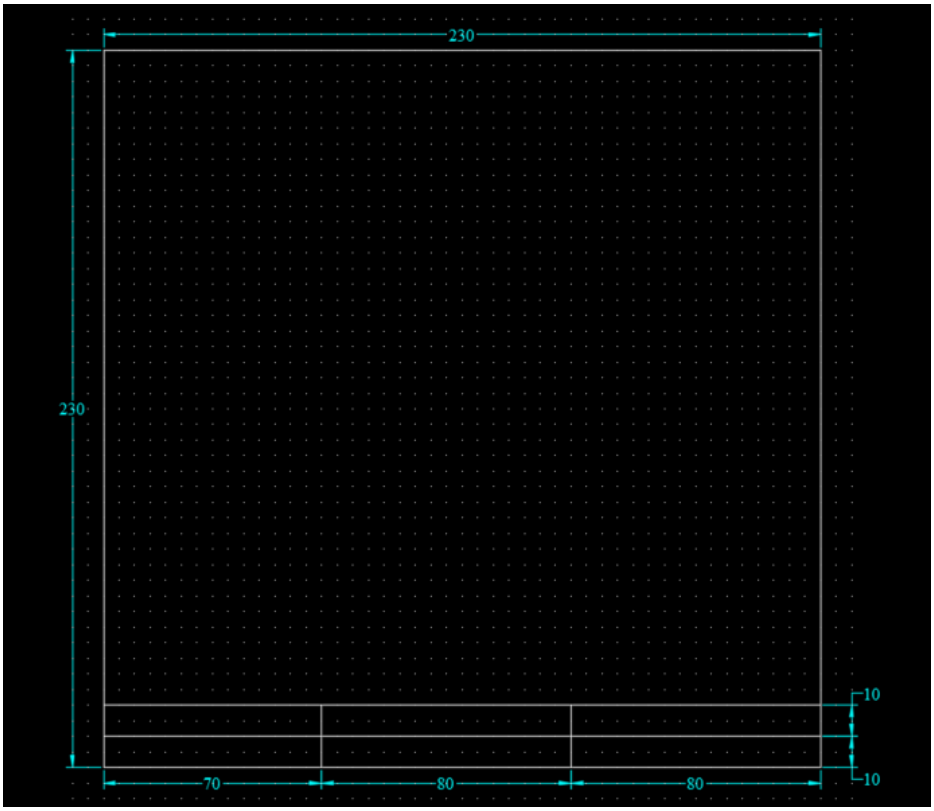

Fig 1

5. Next, fill up the title block with your Name, Admission Number, Class with rest as shown in FIG 2:

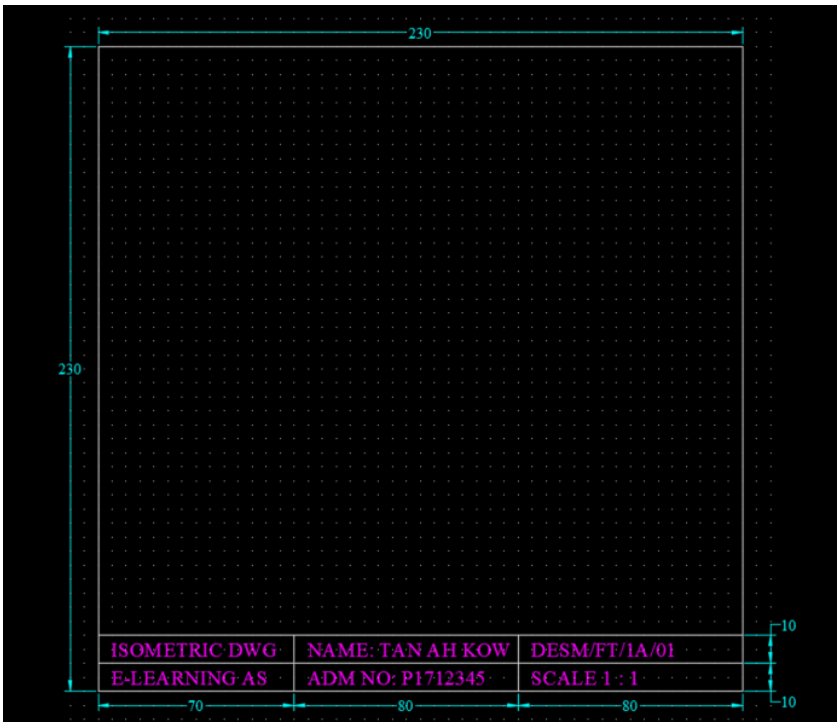

Fig 2

6. Change the drawing setting to isometric snap as shown below to change to isometric drawing space (FIG 3):

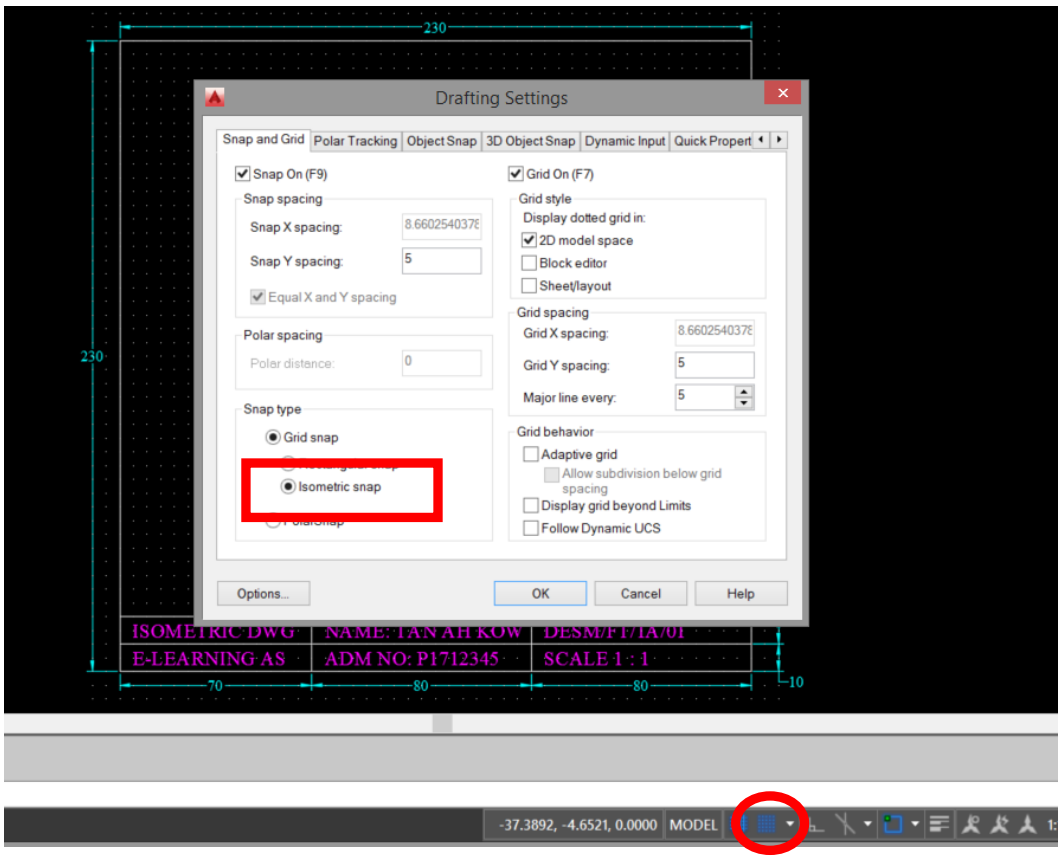

FIG 3

7. Draw a isometric rectangle that looks like a parallelogram using line command with a diagonal line across as construction line (FIG 4):

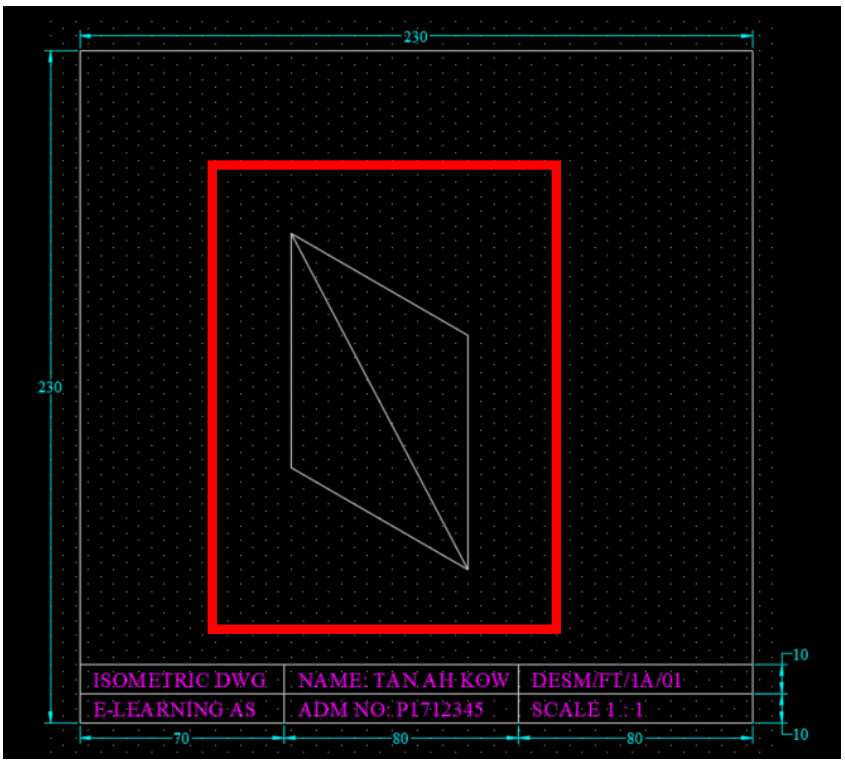

FIG 4

Instructions in AutoCAD (FIG 5):

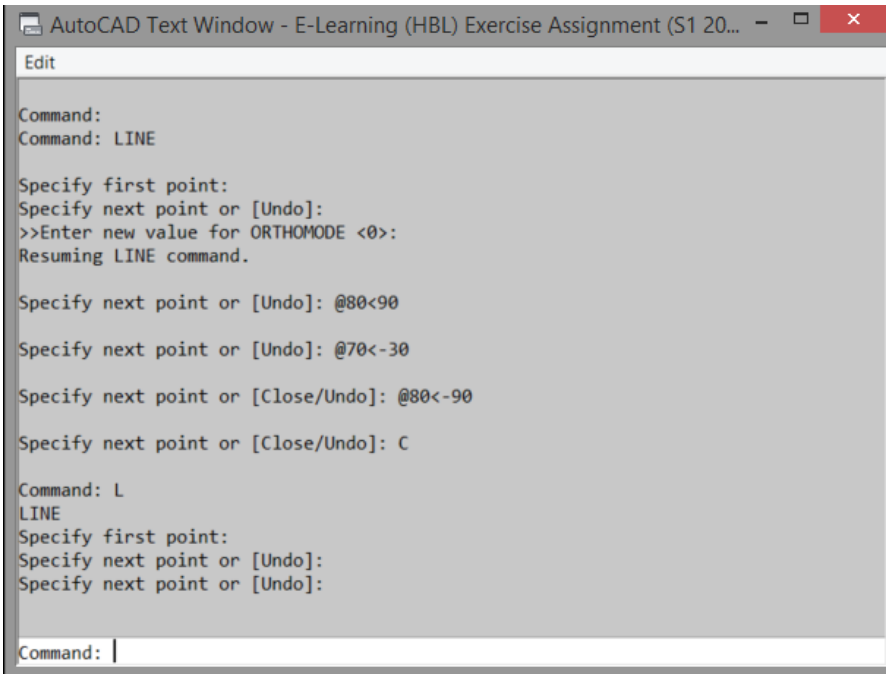

FIG 5

8. Draw two Isometric circles with diameters 50mm and 25mm with the centre at the midpoint of diagonal line. Next, copy the two isometric circles 40mm away at direction -150 degrees (FIG 6).

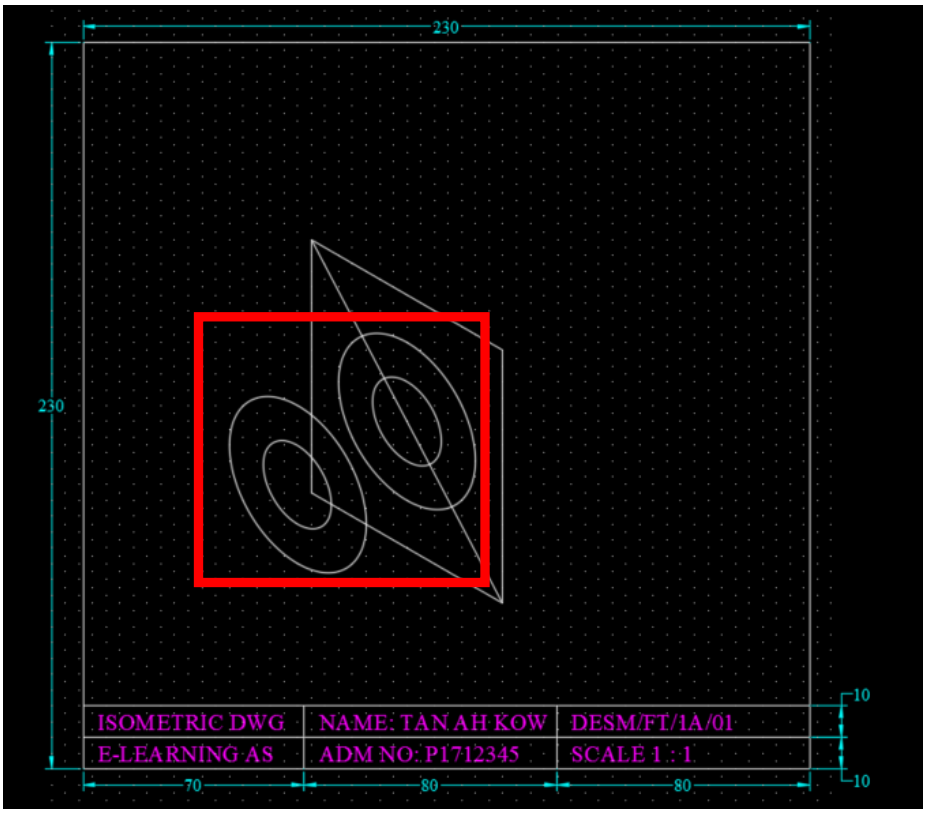

FIG 6

Instructions for drawing the 2 sets of isometric circles in FIG 6 as shown below:

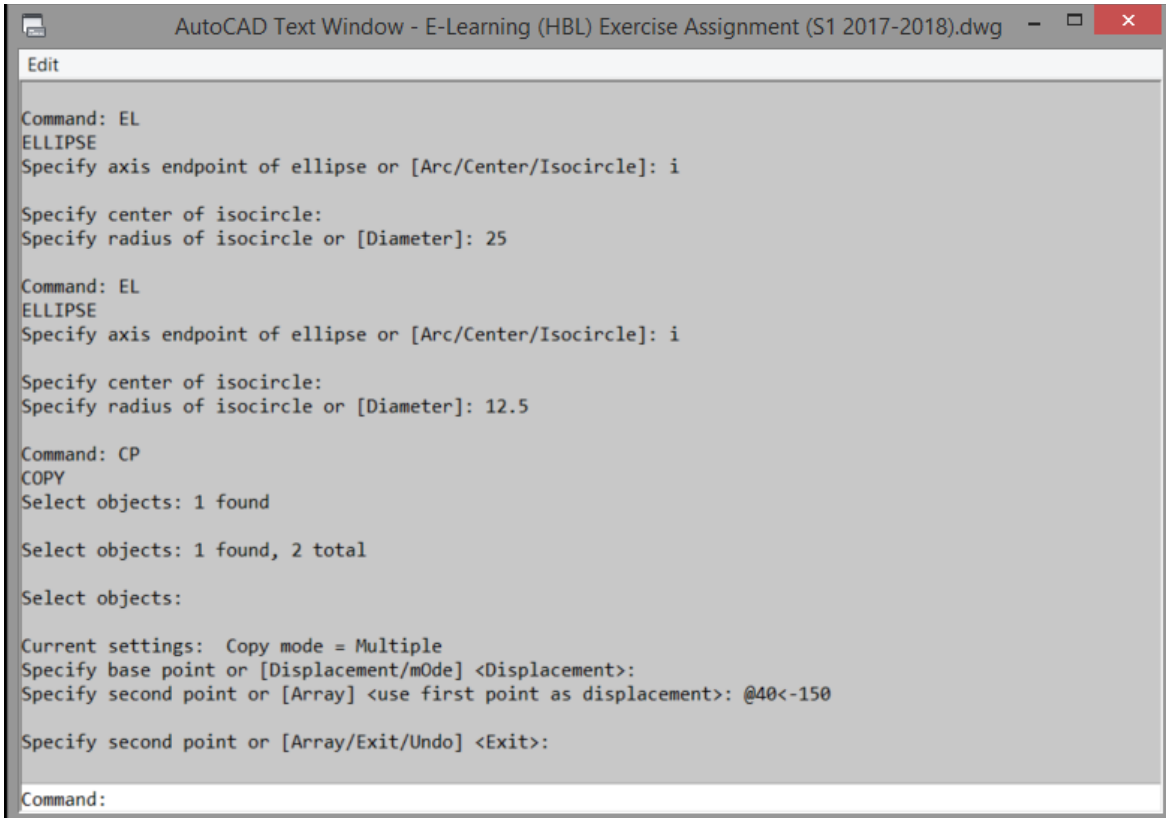

FIG 7

9. Remove the construction line (diagonal line). Join the 2 sets of isometric circles using lines. (Hint: from Quadrant of one ellipse to quadrant of the next ellipse, total 4 lines). (FIG 8).

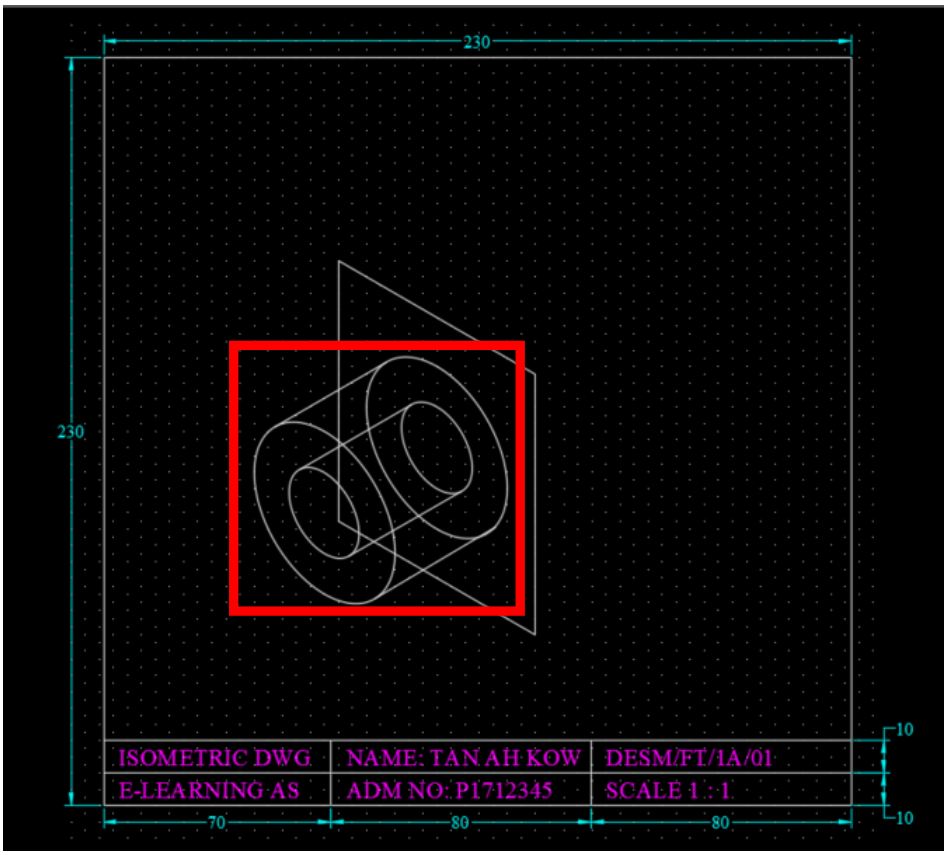

FIG 8

Instructions to erase diagonal line & draw 4 lines to join from 1 set of isometric circles to another set of isometric circles as shown below:

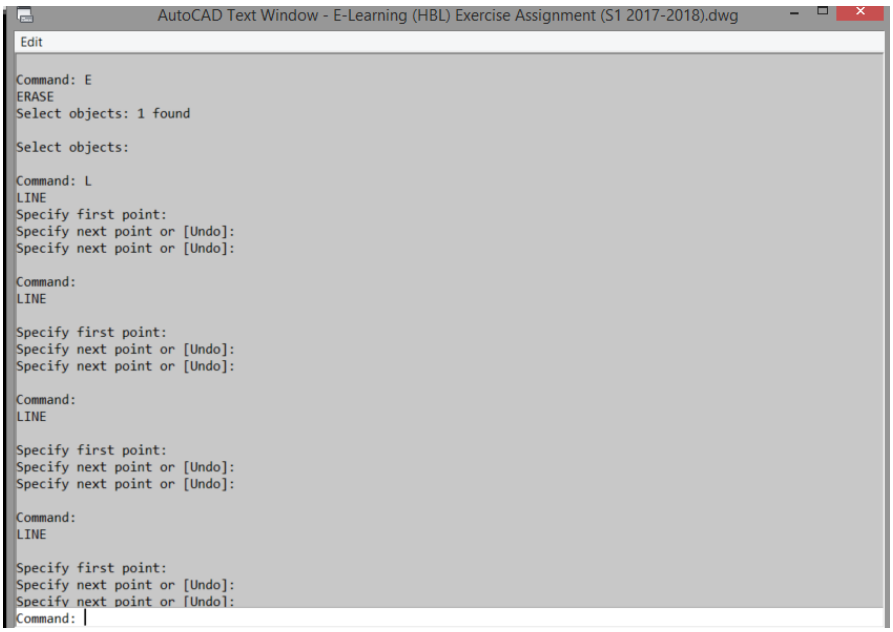

FIG 9

10. Trim off 2 lines and part of isometric circle as shown below(FIG 10):

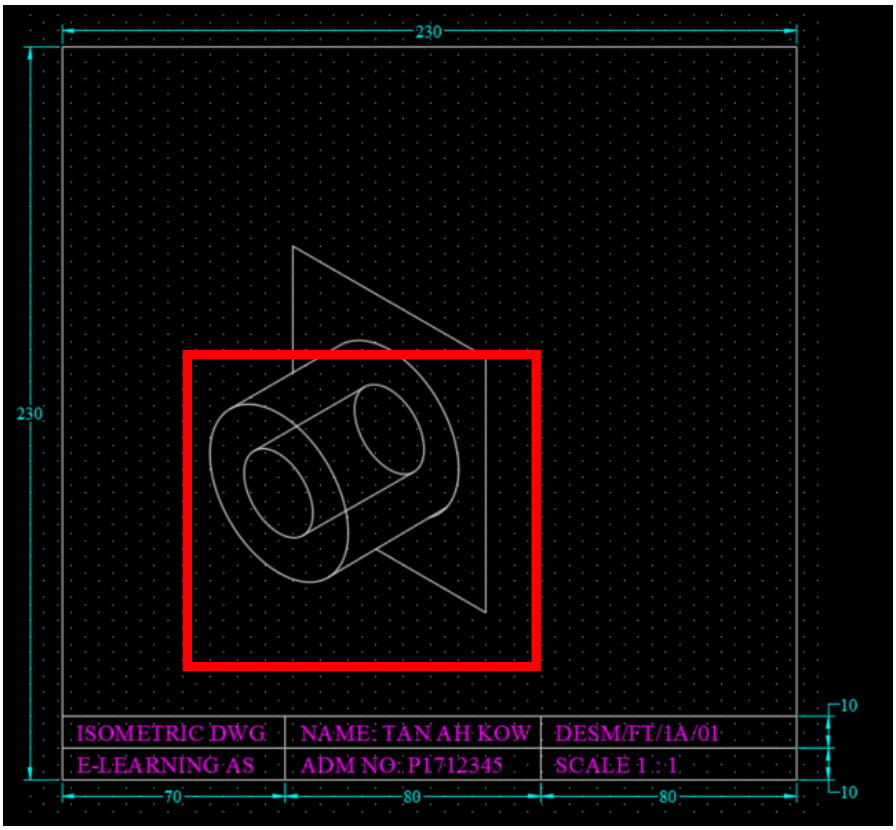

FIG 10

12. Redraw the 2 line that were trimmed off (Hint: use command line and extension) and the other half of isometric circle (Hint: use command mirror) as shown in FIG 11:

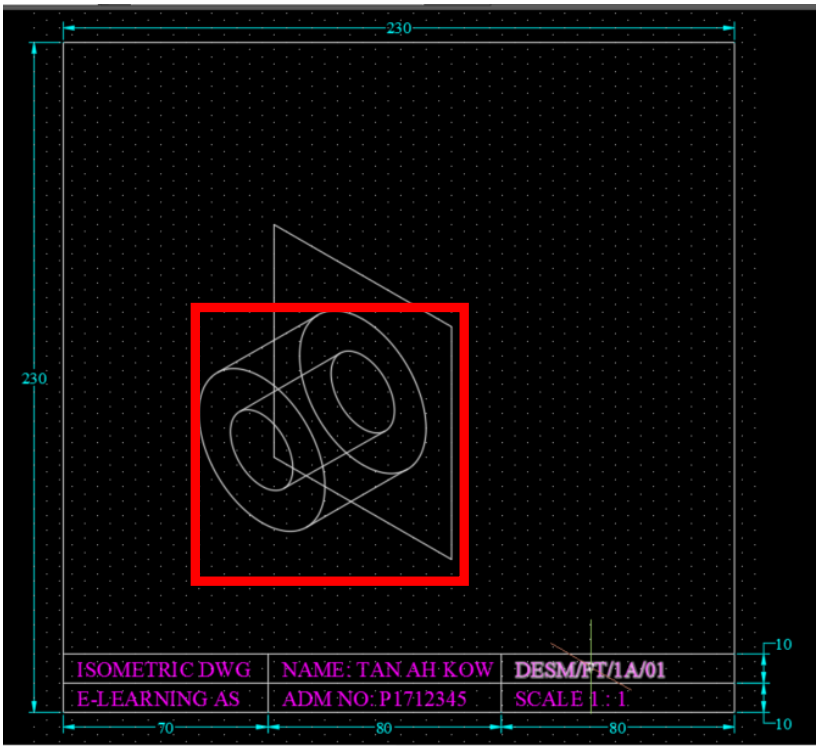

FIG 11

13. Select those lines including half & full isocircles and convert to hidden lines by inserting into the Layer Hidden (FIG 12).

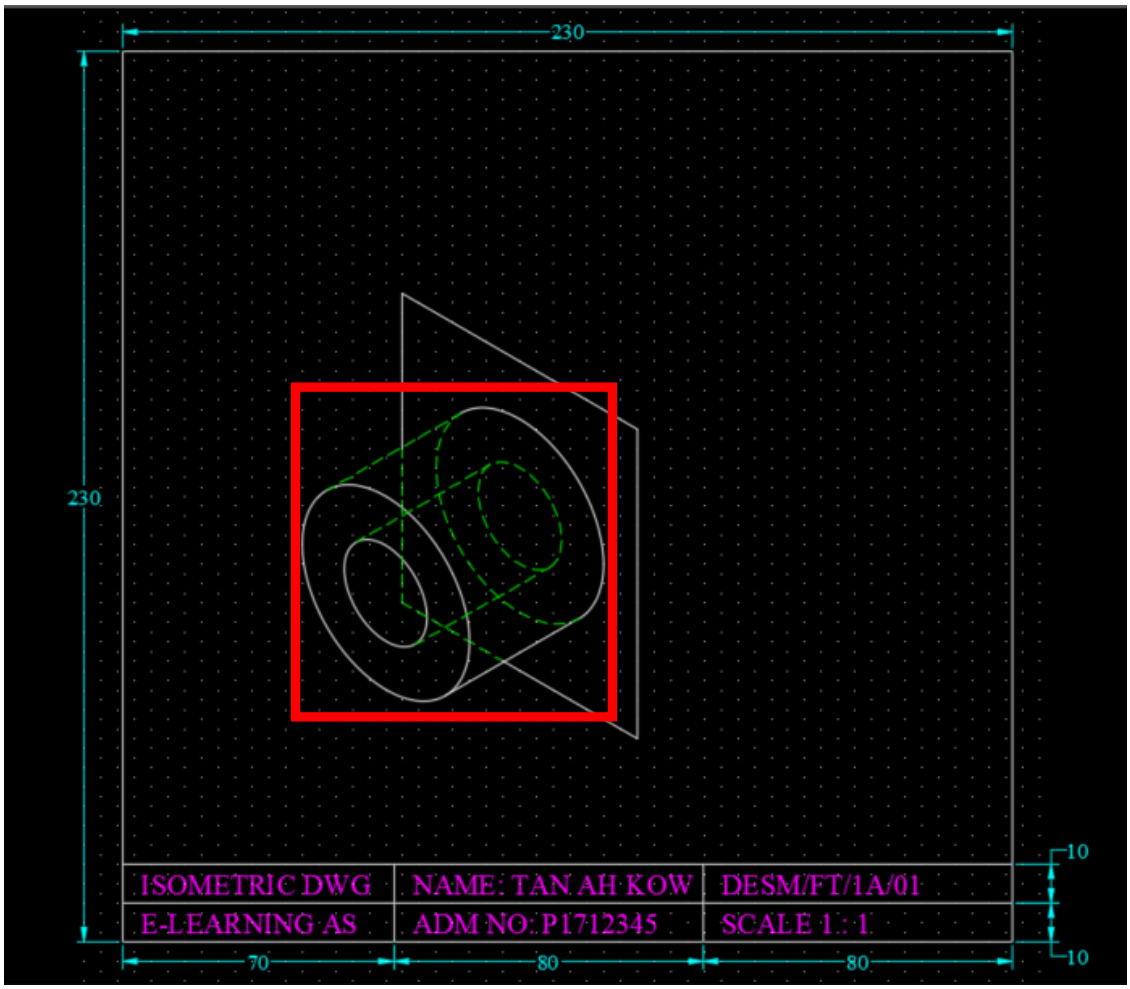

FIG 12

14. Similarly, complete the extension of trapezoid by drawing the top surface using lines and complete with commands copy. Select three lines and convert to hidden lines (green) and draw 2 centre lines (red) as shown in FIG 13. (Do remember to insert the hidden lines & centre lines to respective Layers for Hidden & Center Lines):

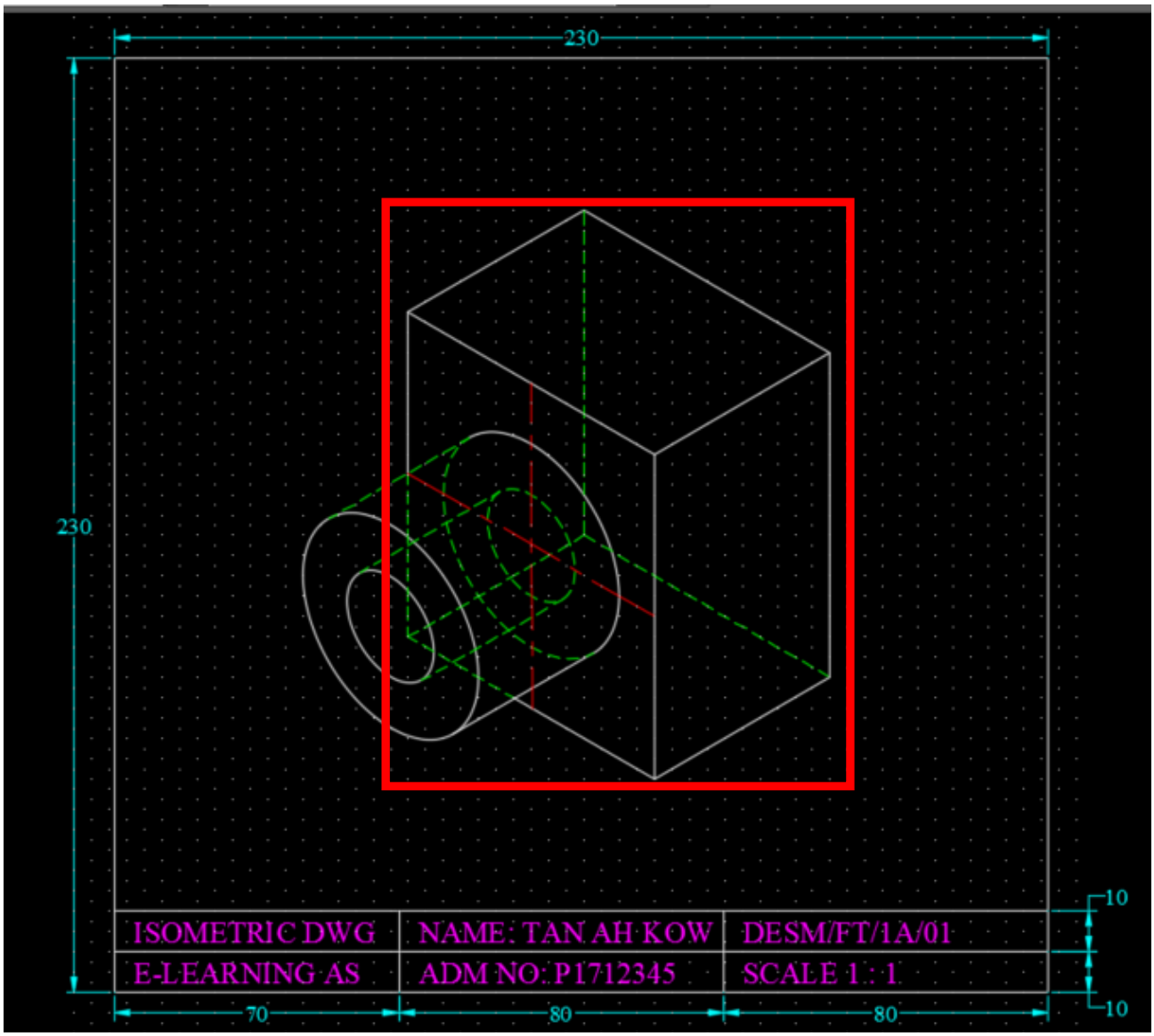

FIG 13

15. Draw the dimensions using Dimension Aligned (4 places) and Dimension Leader (2 Places) as shown in Fig 14. Insert all dimensions in Layer Dimension (Cyan):

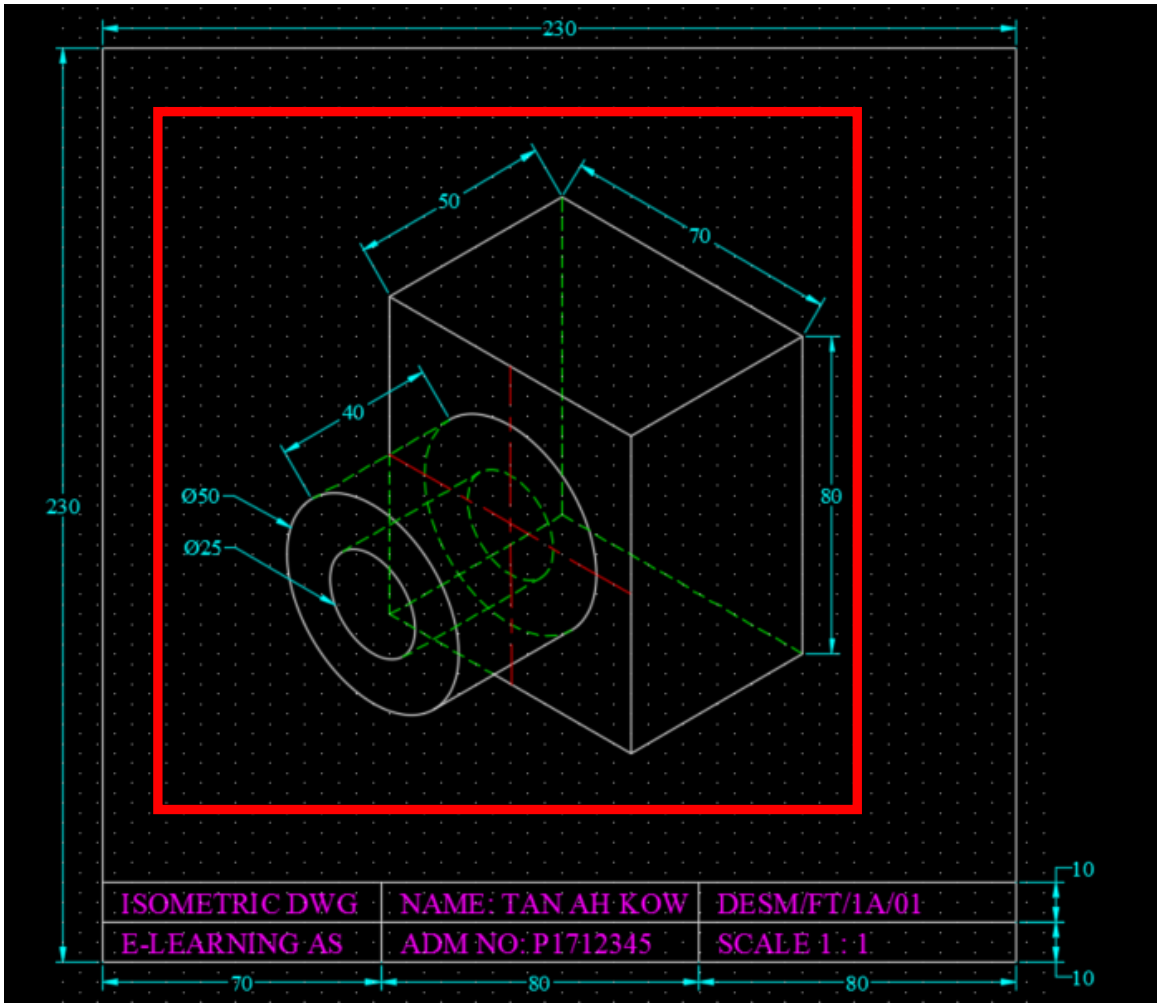

FIG 14

16. Next, use Dimension Oblique to align the 4 dimensions in proper directions as shown below (FIG 15):

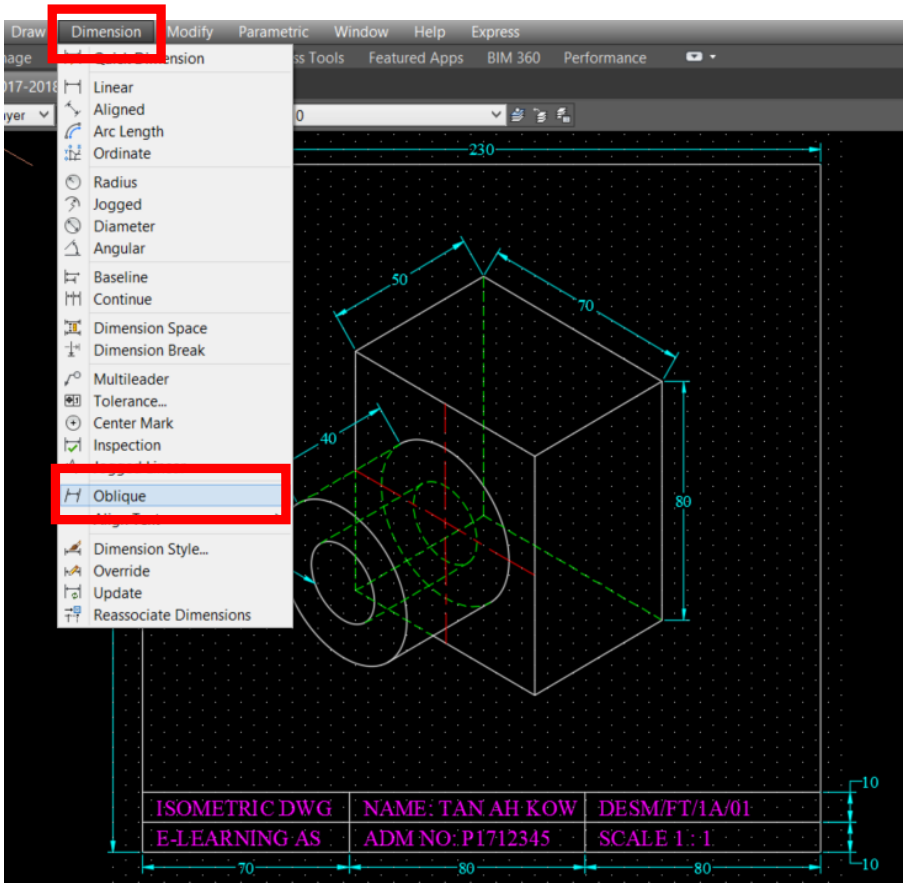

FIG 15

17. Select the dimensions 50mm & 40mm to oblique and enter the obliquing angle 150 degrees and enter to complete the command as shown in Fig 16:

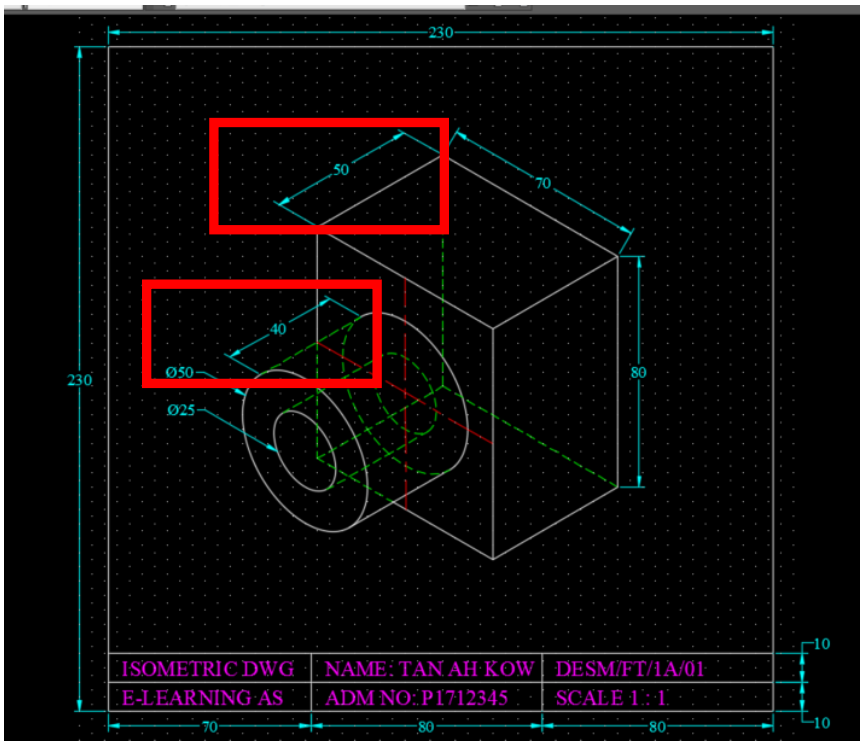

FIG 16

18. Next, dimension Oblique for 70mm and 80mm with obliquing angle 30 degrees as shown in Fig 17:

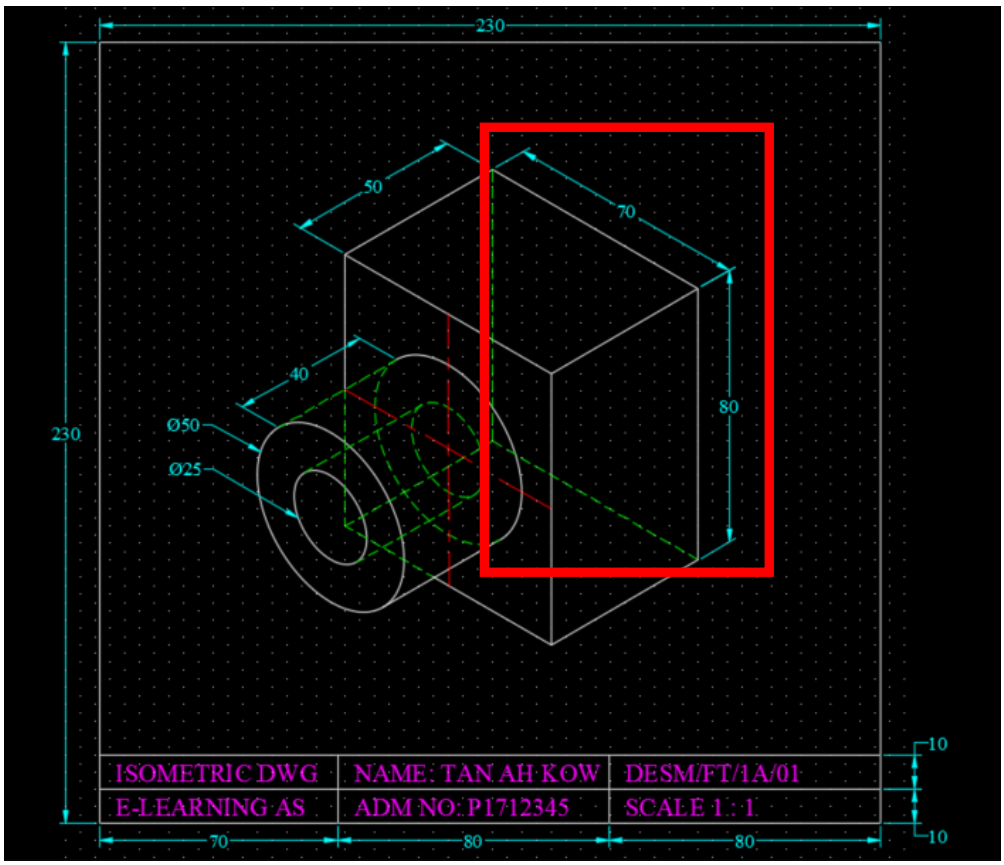

FIG 17

19. The final dimensioning of this object should look like FIG 18 below:

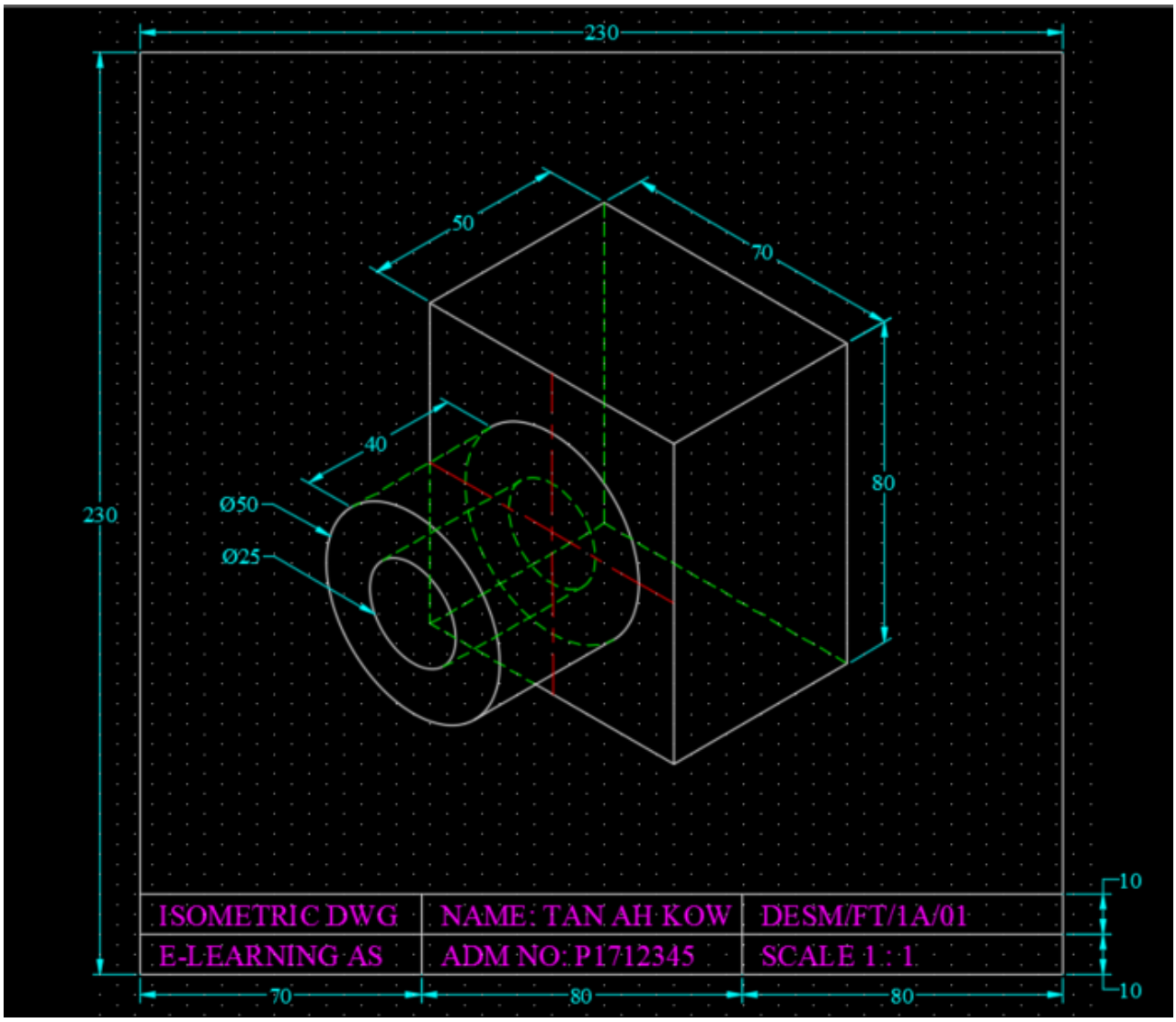
230
50
70
40
80
230
Ø50
Ø25
ISOMETRIC DWG
NAME: TAN AH KOW
DESM/FT/1A/01
E-LEARNING AS
ADM NO: P1712345
SCALE 1 : 1
10
10
70
80
80

FIG 18

20. As the upper line of the cylinder should be continuous line, it is easy to amend by selecting the line and deposit into the layer “0” as shown below (FIG 19):

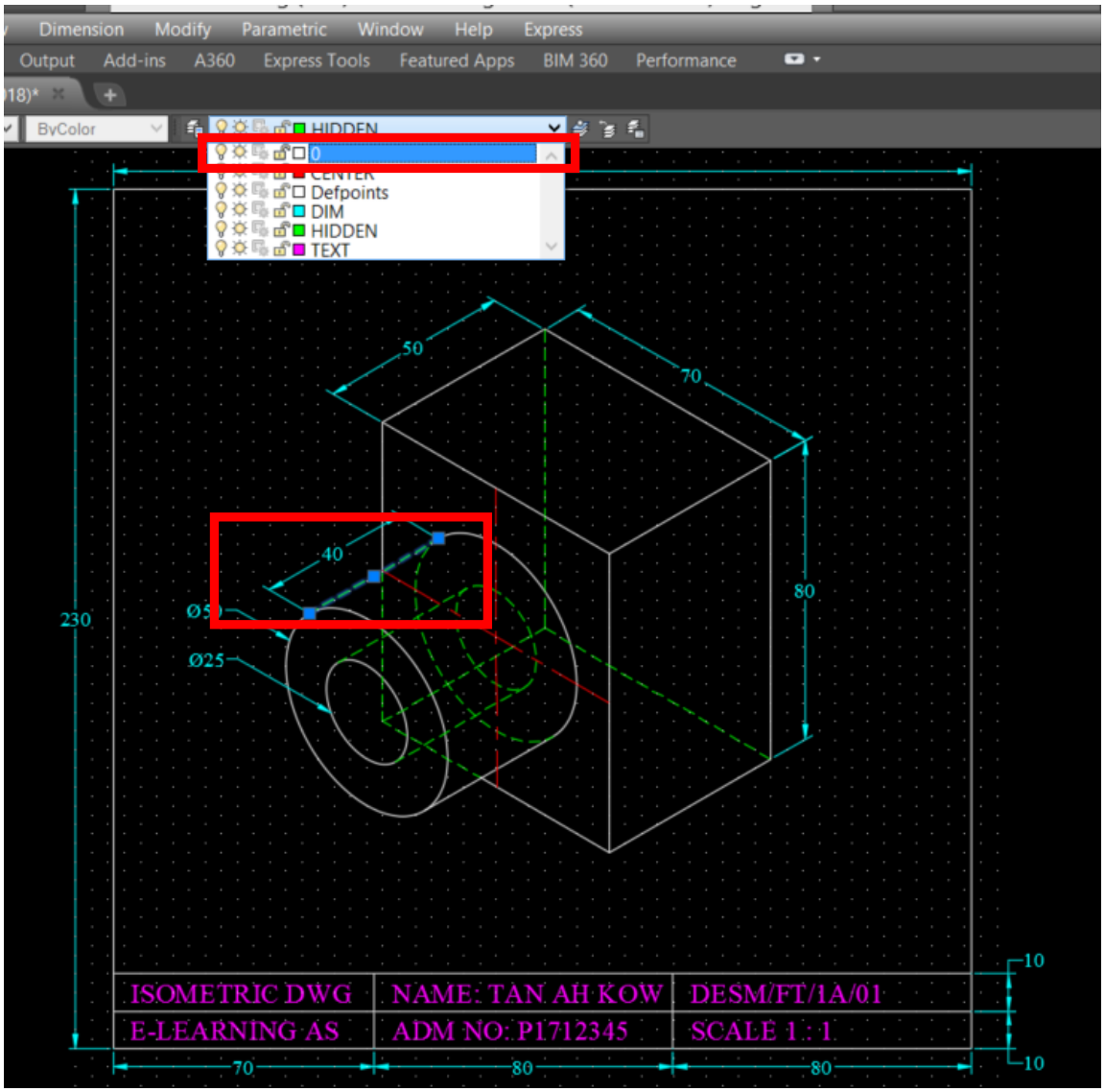

FIG 19

20. The final isometric drawing is shown below (FIG 20):

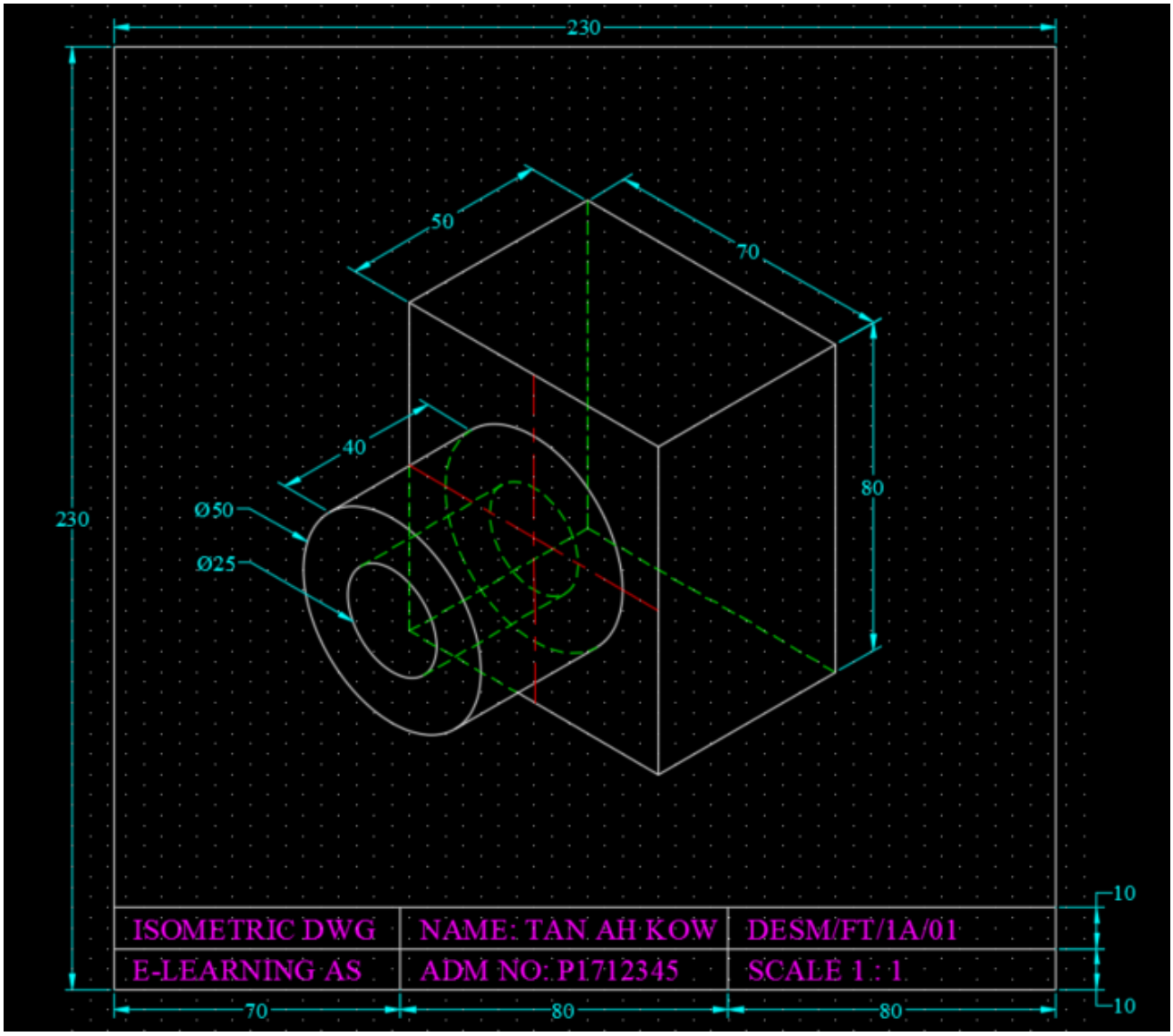

FIG 20

THE END