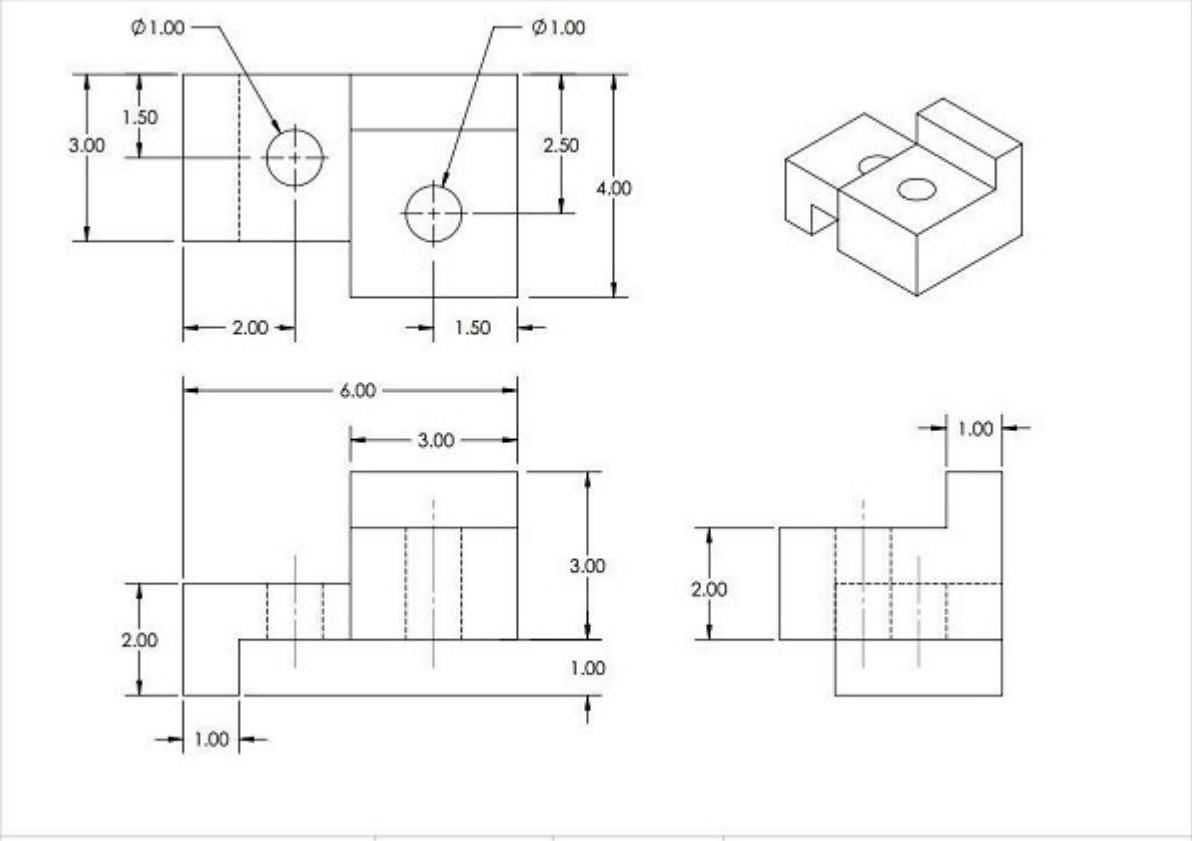
MAE 214 – Fall 2024
Homework #2
Due: October 12th, 2024 by 11:59 p.m. via Canvas

Instructions: You must submit all part files (SLDPRT format) via Canvas.
Submit all your homework files as a single file by compressing them into a ZIP file (HW02_Last_Name.zip)

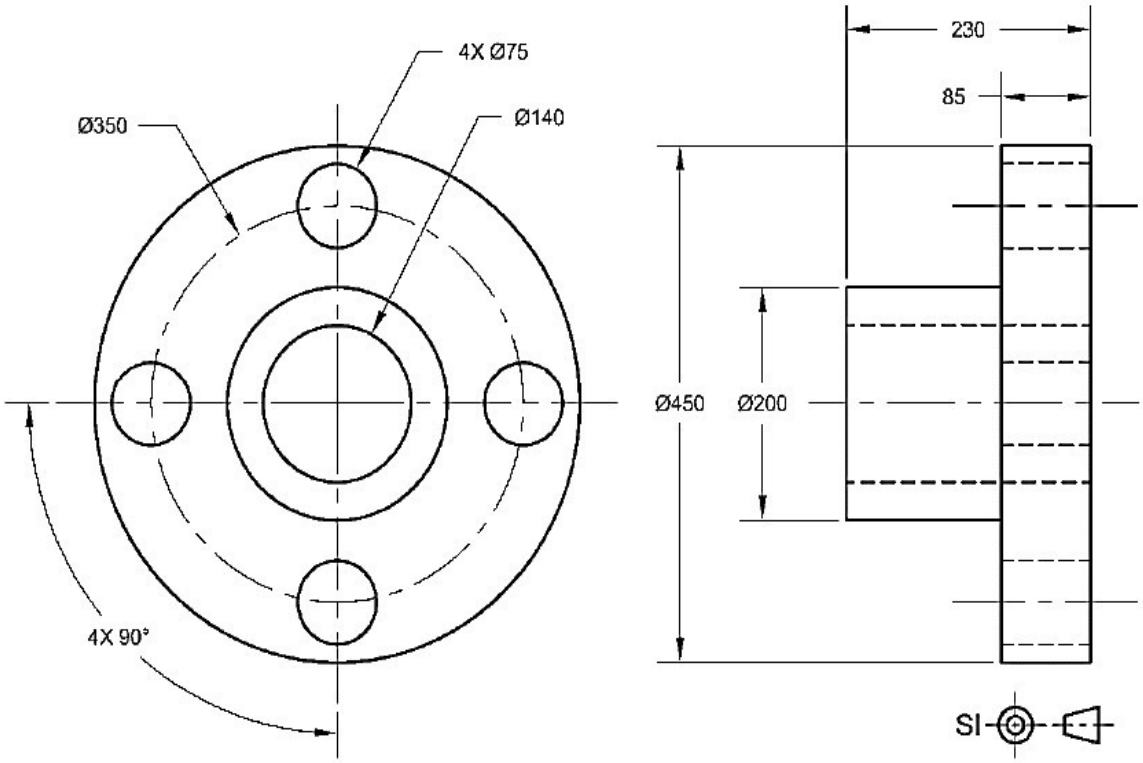
Problem 1: Make a part in SolidWorks from the given drawing sheet below. *All dimensions are in inches.* All sketches must be fully defined. **(25 points)** *Hint: Remember to start and/or dimension your sketches from the origin of the sketch plane to make them easier to fully define.*

Note: The Part file must be named using the following naming convention: Problem1_LastName.SLDPRT



Problem 2: Make a SolidWorks part model from the given figure below. *All dimensions are in millimeters.* You must use the "Circular Pattern" feature the to drill the four exterior holes shown in the figure. All sketches must be fully defined. **(25 points)** *Hint: Remember to start and/or dimension your sketches from the origin of the sketch plane to make them easier to fully define.*

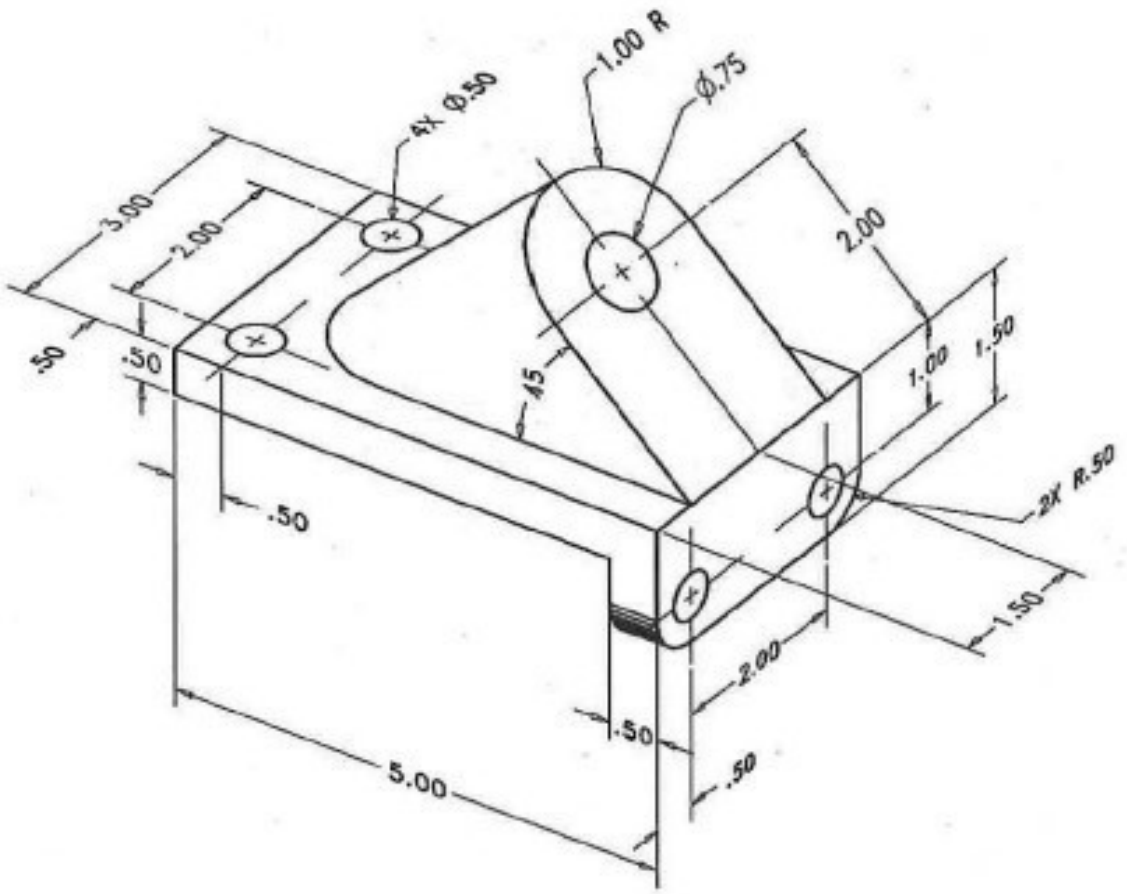
Note: The Part file must be named using the following naming convention: Problem2_LastName.SLDPRT



Problem 3: Make a SolidWorks part model for the given figure below. *All dimensions are in inches.* All holes are through unless otherwise stated. All sketches must be fully defined in all features used.
(25 points)

The round edges on the base of the part should be created using the **fillet** feature. The inclined portion of the part should be completed by applying an inclined plane and then creating an extrusion using the **extrude feature** and **up to surface** option only. *Note: Up to surface is one of the options available in extruded boss-base feature. Hint: Remember to start and/or dimension your sketches from the origin of the plane to make them easier to fully define.*

Note: The Part file must be named using the following naming convention: Problem3_LastName.SLDPRT



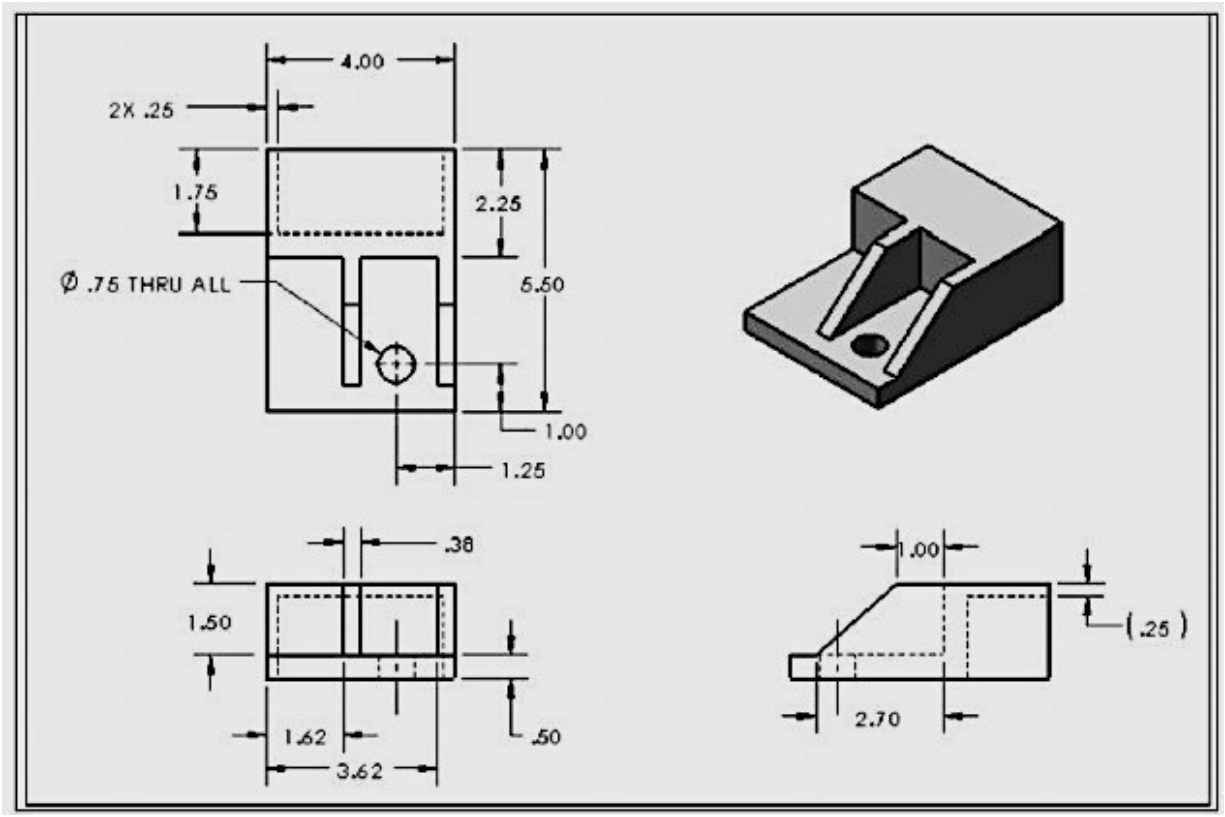
Problem 4: (25 Points)

Problem 4(a): Make a SolidWorks part from the given drawing sheet below. All sketches must be fully defined in all features. *All dimensions are in inches.*

Problem 4(b): Make a drawing sheet of the same part which you have created for Problem 4(a) and include all necessary dimensions as shown.

Remember this problem requires you to create two different files: a Part file and a Drawing Sheet file.

Note: The name of part file and drawing sheet MUST be same. See example below.
Problem4_Cruz.SLDPRT
Problem4_Cruz.SLDDRW



Grading Rubric

Grading Rubric			0%
MAE 214 - HW2			
Name:			
Item	**Points Available**	**Points Awarded**	**Comments**
Problem 1 - Solidworks Part Model (25 Points)			
Part is dimensioned in inches			
All sketches are fully defined			
Part has correct features and dimensions			
Problem 2 - Solidworks Part Model "Circular Pattern" (25 Points)			
Part is dimensioned in millimeters			
All sketches are fully defined and "Circular Pattern" feature was properly used			
Part has correct features and dimensions			
Problem 3 - Solidworks Part Model "Extrude Feature" & "Up to Surface" (25 Points)			
Part is dimensioned in inches			
All sketches are fully defined and "Extrude Feature" & "Up to Surface" were properly used			
Part has correct features (all holes are thru holes)			
Problem 4 - (4a) Solidworks Part Model & (4b) Engineering Drawing (25 Points)			
(4a) Part is dimensioned in inches			
(4a) All sketches are fully defined in all features			
(4b) Engineering drawing has all required views and dimensions			
(4b) Engineering drawing is properly annotated (i.e. dimensions are presented properly, has all hidden and center lines)			
Total	100	0	