

# Lesson 1

## Inventor 3-D Parametric Modeling

### Extruding

### Objectives

In this assignment you will complete 1 drawing. An Angle Pivot Block. It should take on class period to do. You will first make the .ipt drawing and then finish with an Engineering Drawing. If the student is unclear how to proceed, it is recommended that the student refers back to initial Inventor curriculum and review the steps to making an .ipt drawing.

### Terminology

**Engineering drawing (.idw):** A multi-view drawing. The views should be dimensioned and an isometric drawing of the object should be in the upper right hand corner. It includes a detailed title block.

**.ipt drawing:** a parametric drawing that can be converted into an .idw or an .stl drawing.

**.stl drawing:** a type of file that can be converted into a Makerbot file for 3D printing

**Google Classroom(GC):** An account in which the student will refer to when turning in assignments.

**Print screen:** Making a copy of the computer screen. This copies the screen temporarily so that it can be pasted in another document and edited such as Google Docs, or Google Slides.

### Getting Started

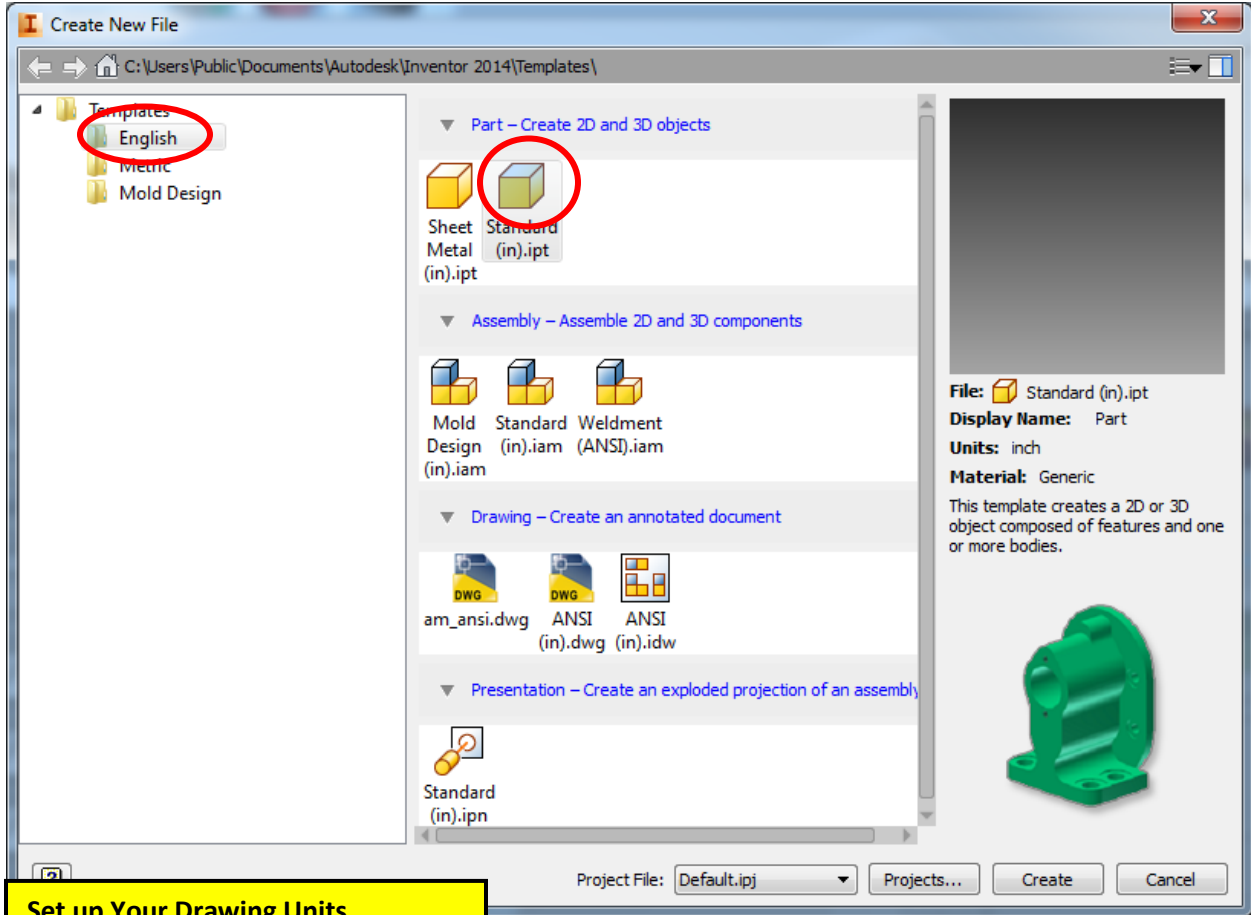
1. Select the Windows icon at the bottom left of the screen:
2. Select "All Programs"
3. Select "Autodesk"
4. Select "Inventor 2017 – English"
5. Select "Inventor 2017" – English" Note: This is a big program and it takes time to load.
6. Draw an .ipt of the Angle Pivot Block, Make an Engineering drawing identical to the one aside from the Title block which should include your information.

# Save Your Work

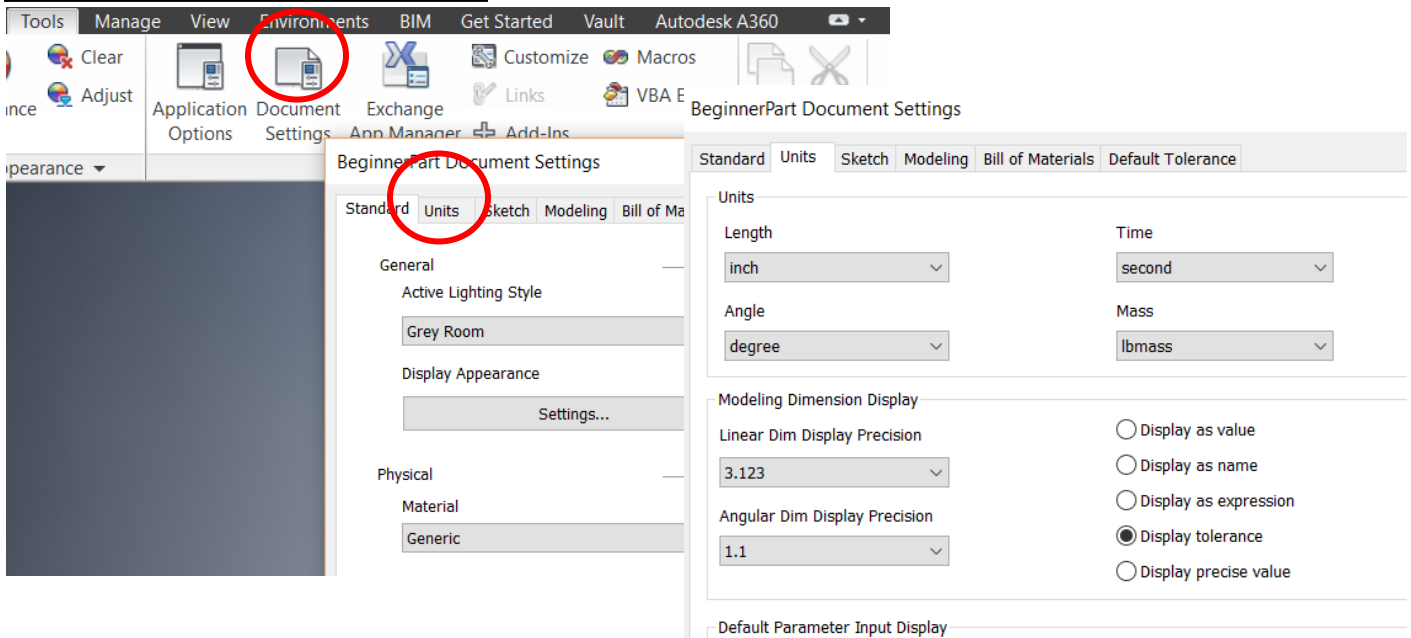
Before you begin the drawing:

1. Create a File and name it Assembly Drawing of Angle Pivot Block.
2. Save the new .ipt as Your Last Name, First name, Angle Pivot Block.

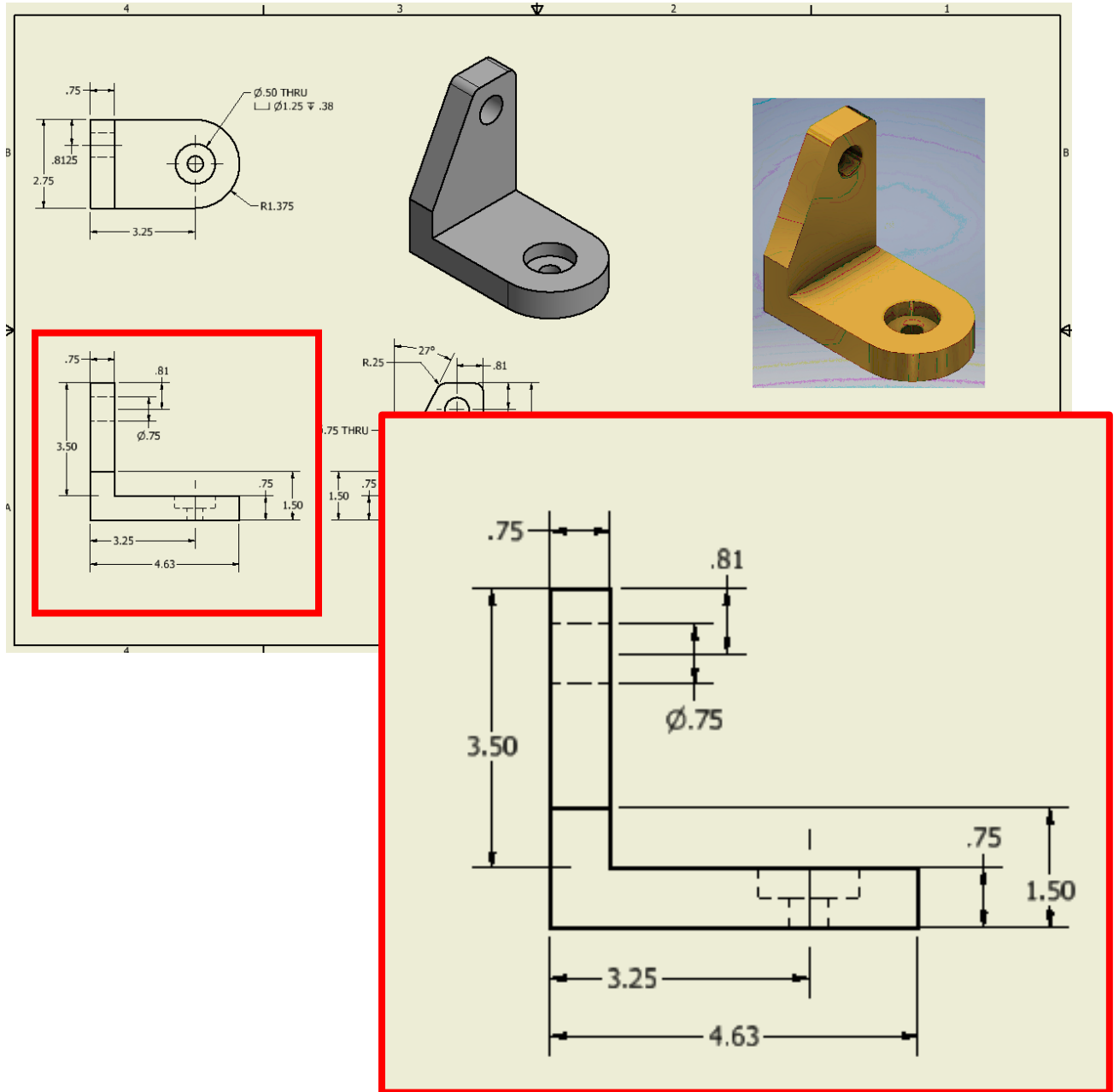
## Start a New .ipt Drawing

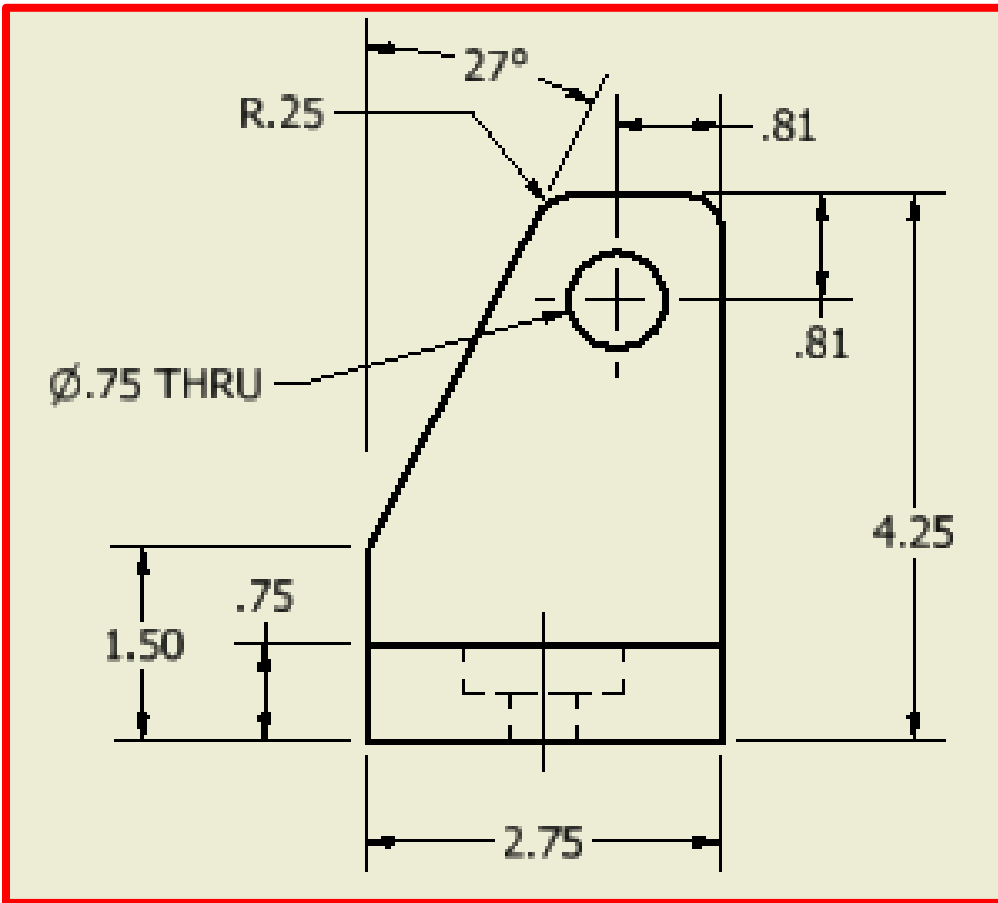
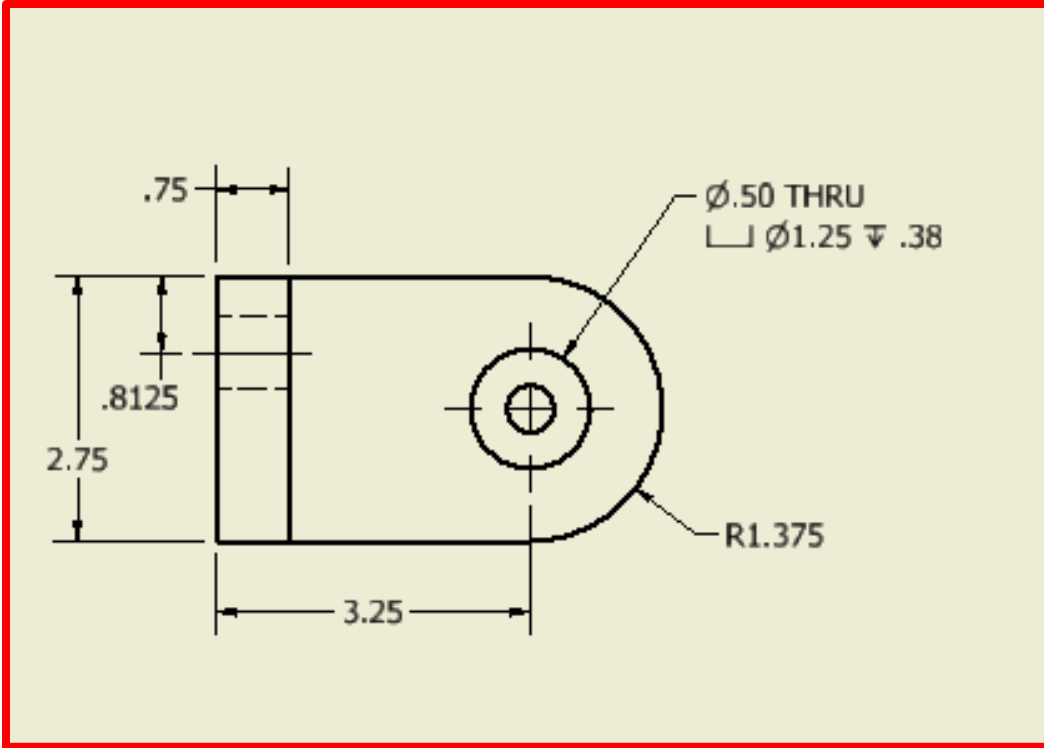


## Set up Your Drawing Units



Begin Drawing your .ipt





Create a new .idw drawing and lay it out exactly as below.

The drawing shows three views of a mechanical part: a top view, a side view, and an isometric view. The top view shows a rectangular base with a semi-circular end of radius R1.375 and a hole with diameter  $\phi 0.50$  THRU. The side view shows a vertical plate of height 4.25 with a hole of diameter  $\phi 0.75$  THRU and a chamfered edge with a 27° angle and radius R.25. The isometric view shows the part in a 3D perspective.

DRAWN	David Johnson	6/4/2016	DeKalb County Schools	
CHECKED	DCJ	6/4/2016	TITLE	
QA			4620-4621 CTAERN 2016	
MFG	Dr. Paul Camick		SIZE	DWG NO
APPROVED	TFJ	6/4/2016	B	06-06-2016
			SCALE	1 / 2
				SHEET 1 OF 1

Fill out the Title Block as follows

The title block is annotated with blue boxes and red arrows pointing to specific fields:

- Your Name**: Points to the 'DRAWN' field containing 'David Johnson'.
- The Date**: Points to the date field containing '6/4/2016'.
- JONESBORO HIGH SCHOOL**: Points to the 'TITLE' field containing 'JONESBORO HIGH SCHOOL'.
- TITLE**: Points to the 'TITLE' field containing 'ANGLE PIVOT BLOCK'.
- DRAWING #AD1**: Points to the 'DWG NO' field containing '#AD1'.

DRAWN	David Johnson	6/4/2016	JONESBORO HIGH SCHOOL	
CHECKED	DCJ	6/4/2016	TITLE	
QA			ANGLE PIVOT BLOCK	
MFG	KENT PATR TEACHER		SIZE	DWG NO
APPROVED	TFJ	6/4/2016	B	#AD1
			SCALE	1 / 2
				SHEET 1 OF 1

## ***Save Your Work***

Save your work.

## ***Submit Your Work for a Grade***

Take a Print Screen of your drawing. Paste it into a Google Doc and submit it for a grade.

## ***Terms to Know***

Instructions: Copy the following terms into your notebook and define them.

.ipt drawing

Print Screen

.idw drawing

Projected view

Isometric drawing

Parametric drawing