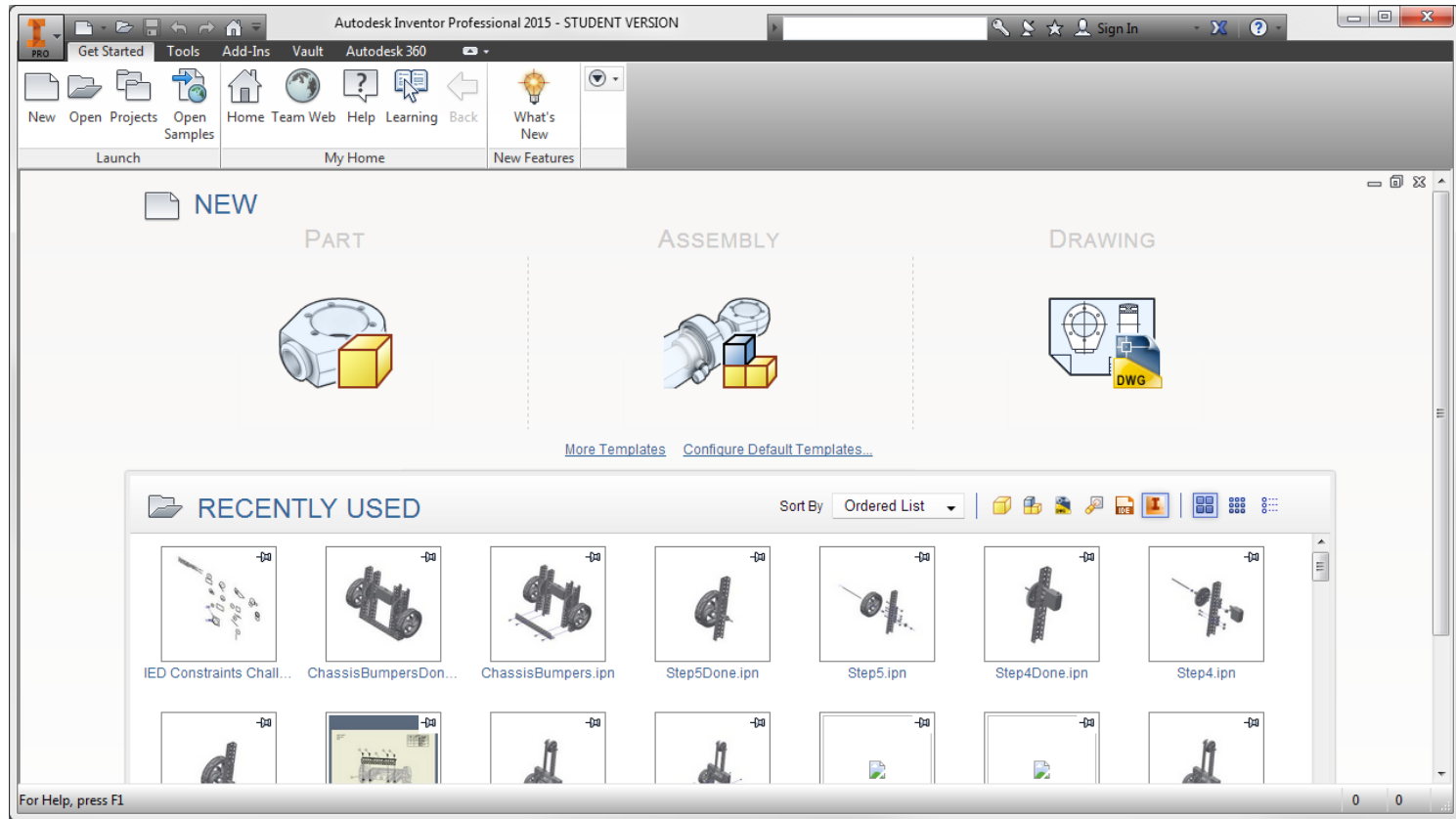# 3D Computer Modeling
Using Inventor™

Getting Started with Inventor

When you first open Inventor, you have the option to begin a new part, assembly, or drawing. Recently used items are available to open below. You can also open or start new files using the ribbon at the top of the window. When starting a new file, be sure to configure the template for the correct system, either English or Metric.

Inventor Screen Layout

Quick Access Toolbar

Application Menu

Ribbon

Graphics Window
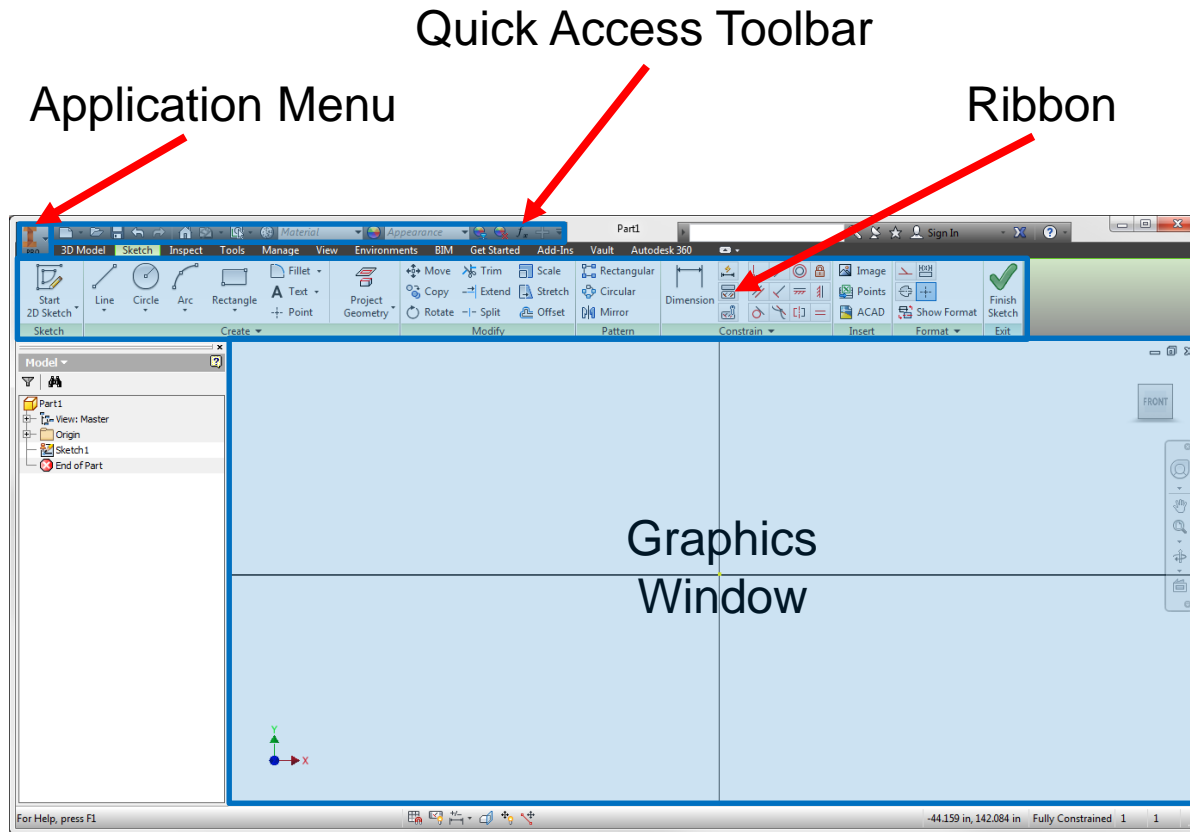
Application Menu
- Contains common commands for creating, saving, and printing.

Quick Access Toolbar
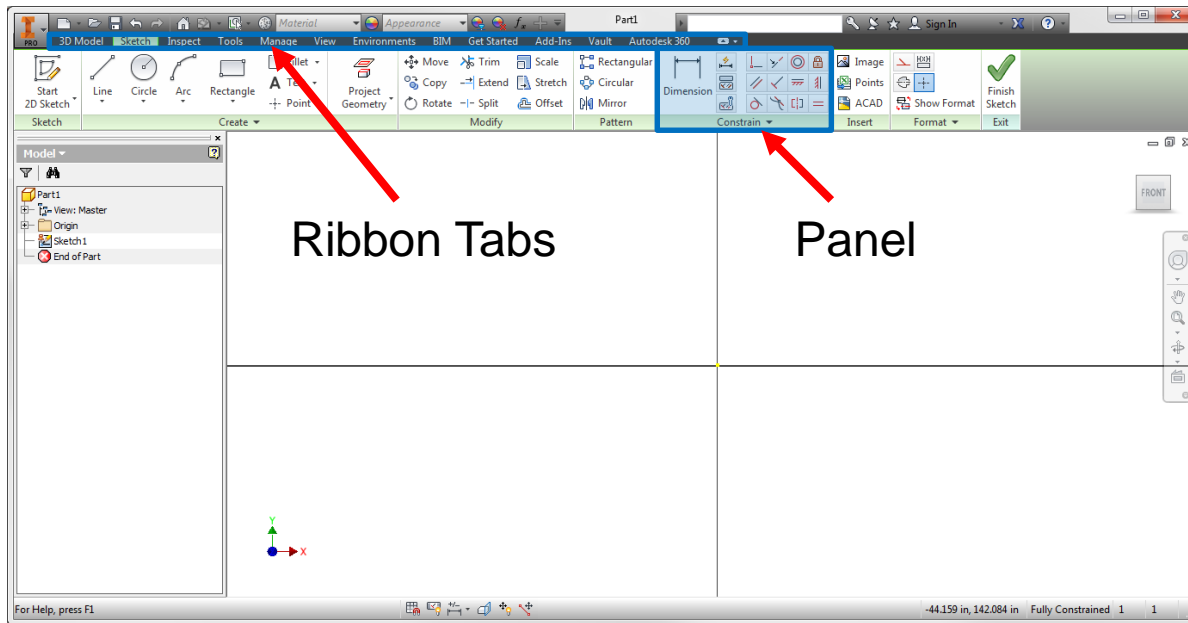- Provides quick access to frequently used commands

Ribbon
- A palette that displays buttons and controls used for both 2D drawing and annotation and 3D modeling and viewing

Graphics Window
- The active modeling area where parts and assemblies are created and edited
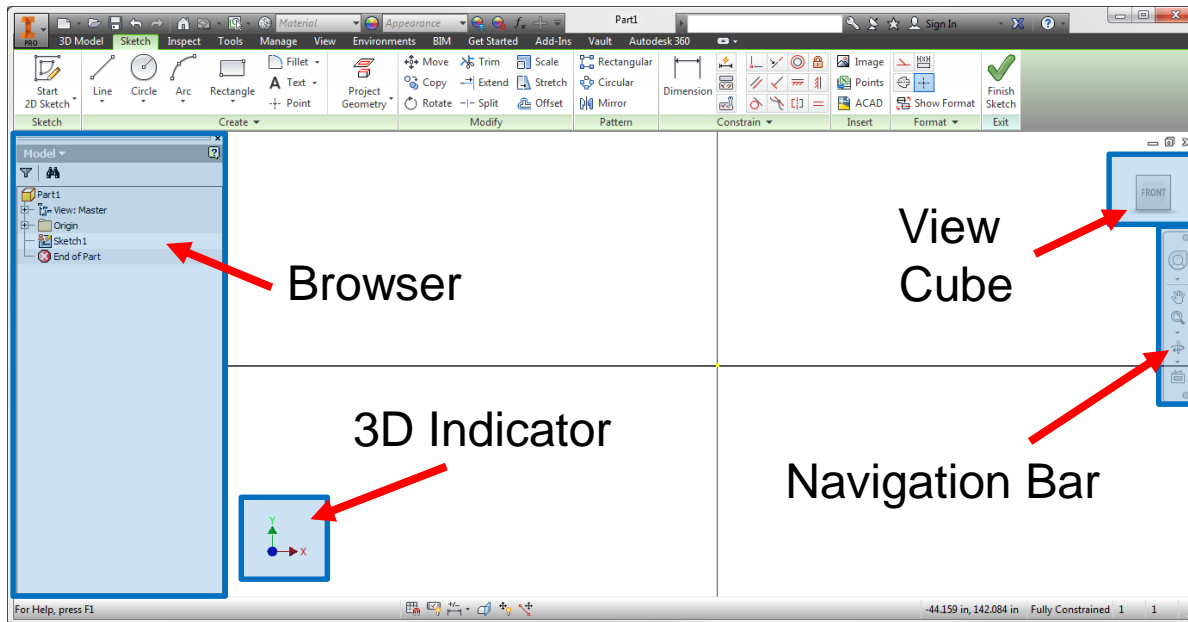
Inventor Screen Layout

Ribbon Tabs
- Organized by task, contain task specific buttons and controls

Panel
- Categorized tasks with quick access to commonly used tasks and an expandable menu for additional related options

Inventor Screen Layout

View Cube

- Clickable and draggable interface that is used to switch between standard and isometric views

Navigation Bar

- On screen element that provides access to various navigation tools

Browser

- Maintains history of part, assembly, or drawing creation

3D Indicator

- Shows direction of X, Y, and Z coordinates.
- Red represents X,
- Green represents Y
- Blue represents Z directions

Mouse Buttons

- Left Mouse Button
  - Used to select icons, menus, and graphics
- Right Mouse Button
  - Brings up additional options
  - Accepts default option
  - Ends a process
- Middle Button/Wheel
  - Provides quick pan and zoom functions

Middle Wheel/Button
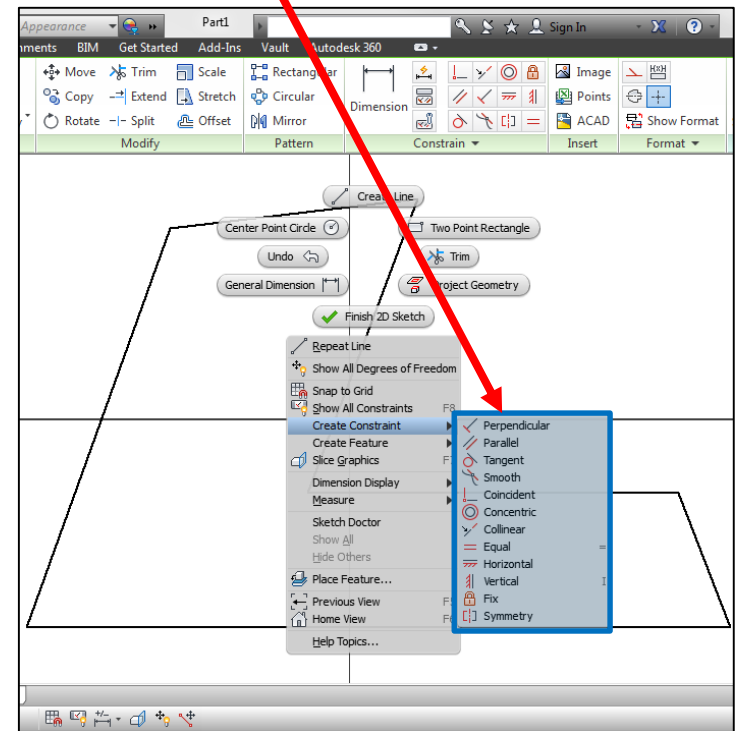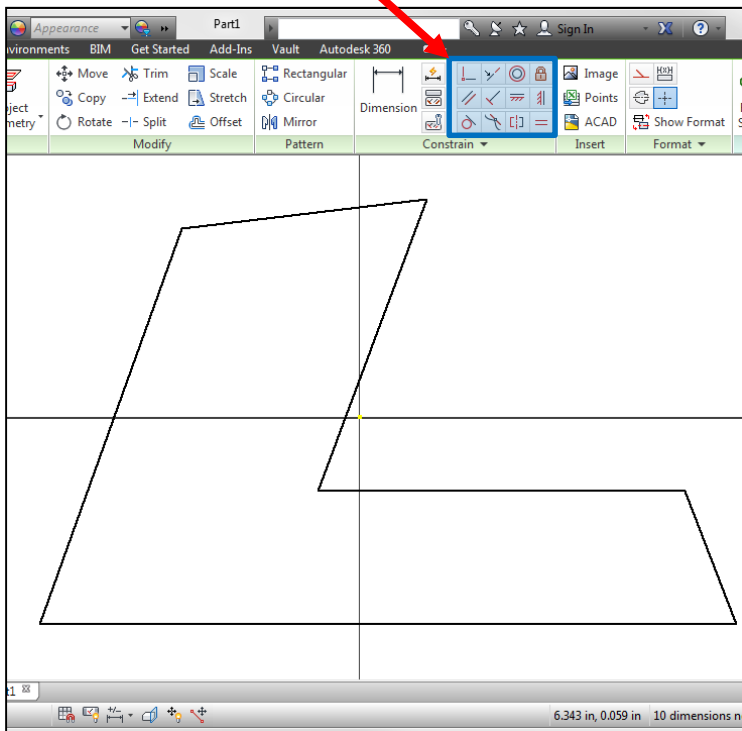
Left Button

Right Button
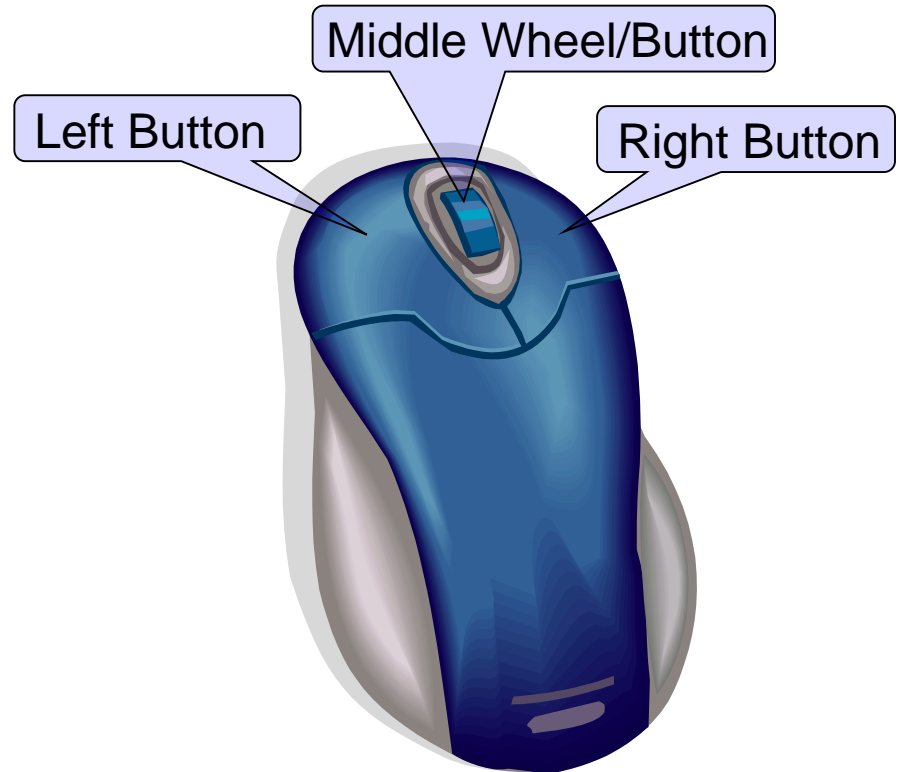
Geometric Constraints

Symbols that show alignments to capture the design intent

To use Geometric Constraints:

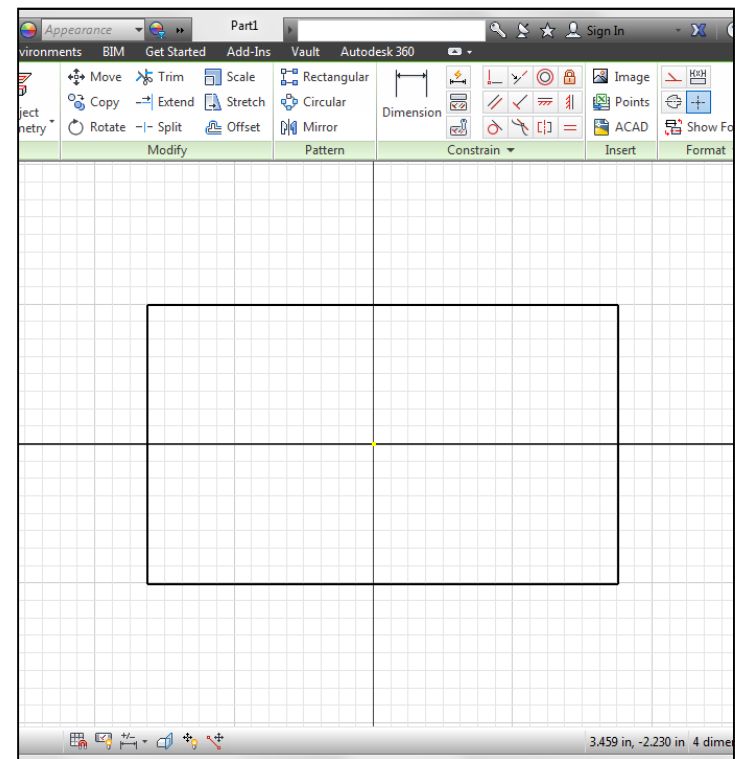1. Use the commands available from the Constrain panel

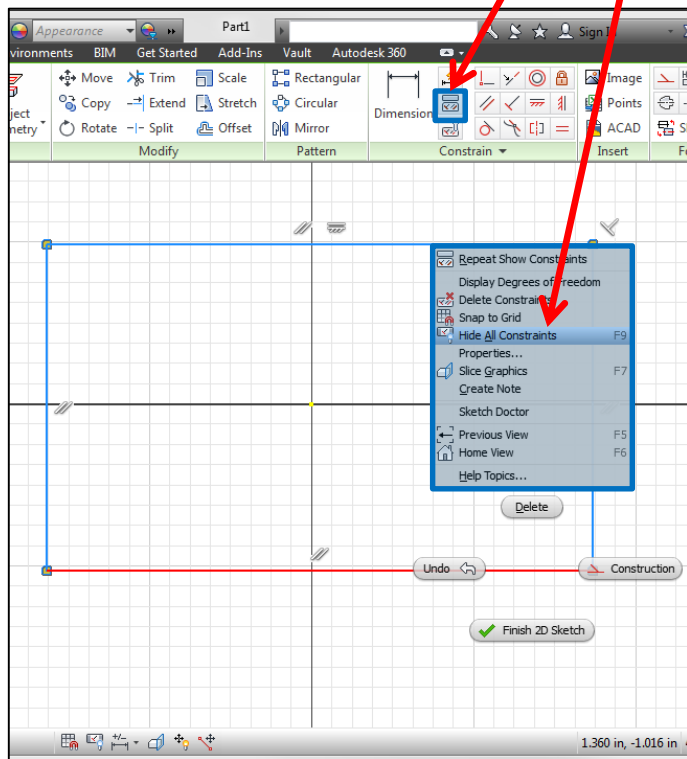OR

2. Right mouse click in Graphics Window, then select Create Constraint

Show and Hide Constraints

Constraints can be shown or hidden using the Show Constraints button in the Constrain panel, using the menu by right clicking in Graphics Window, or the F9 key

# Geometric Constraint Symbols

	Perpendicular	Lines are at right angles
	Parallel	Line is parallel to other objects
	Tangent	Touches at one point only
	Smooth	Create a continuous curve
	Coincident	Constrains 2 points or point to curve
	Concentric	Arc or Circle shares center point
	Collinear	2 lines lie along the same line
	Equal	Resizes to same radius or length
	Horizontal	Line is parallel to X axis
	Vertical	Line is parallel to Y axis
	Fix	Points or curves stay locked in place
	Symmetry	Objects align symmetrically about a line

Dynamic Viewing Functions
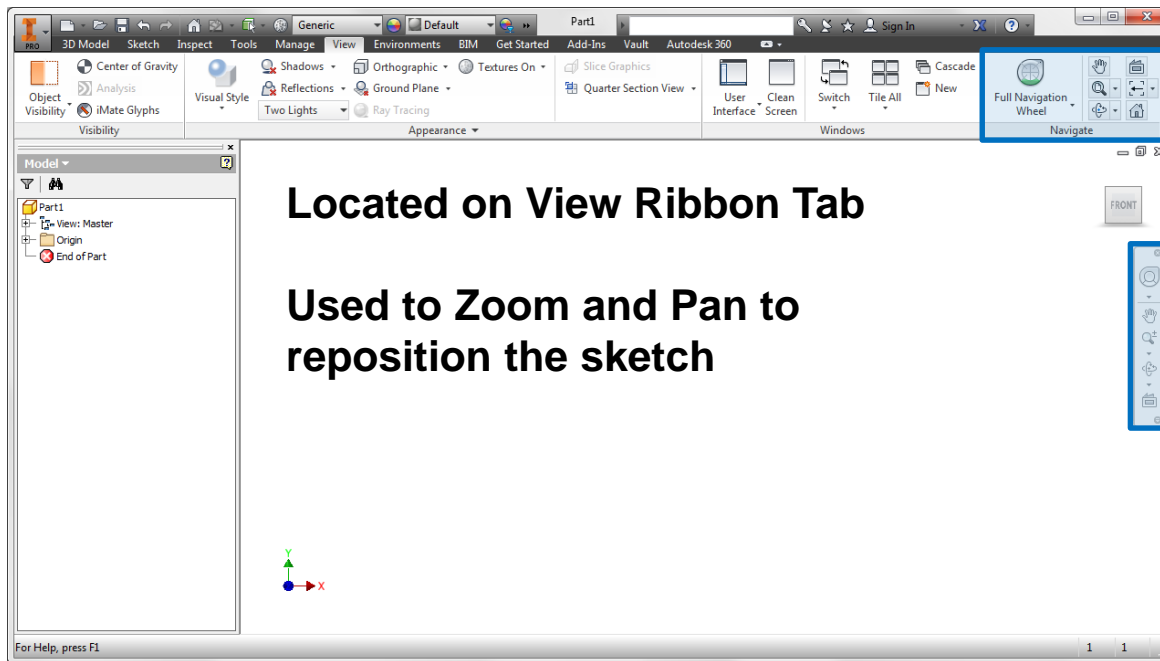
Located on View Ribbon Tab

Used to Zoom and Pan to reposition the sketch

Pan

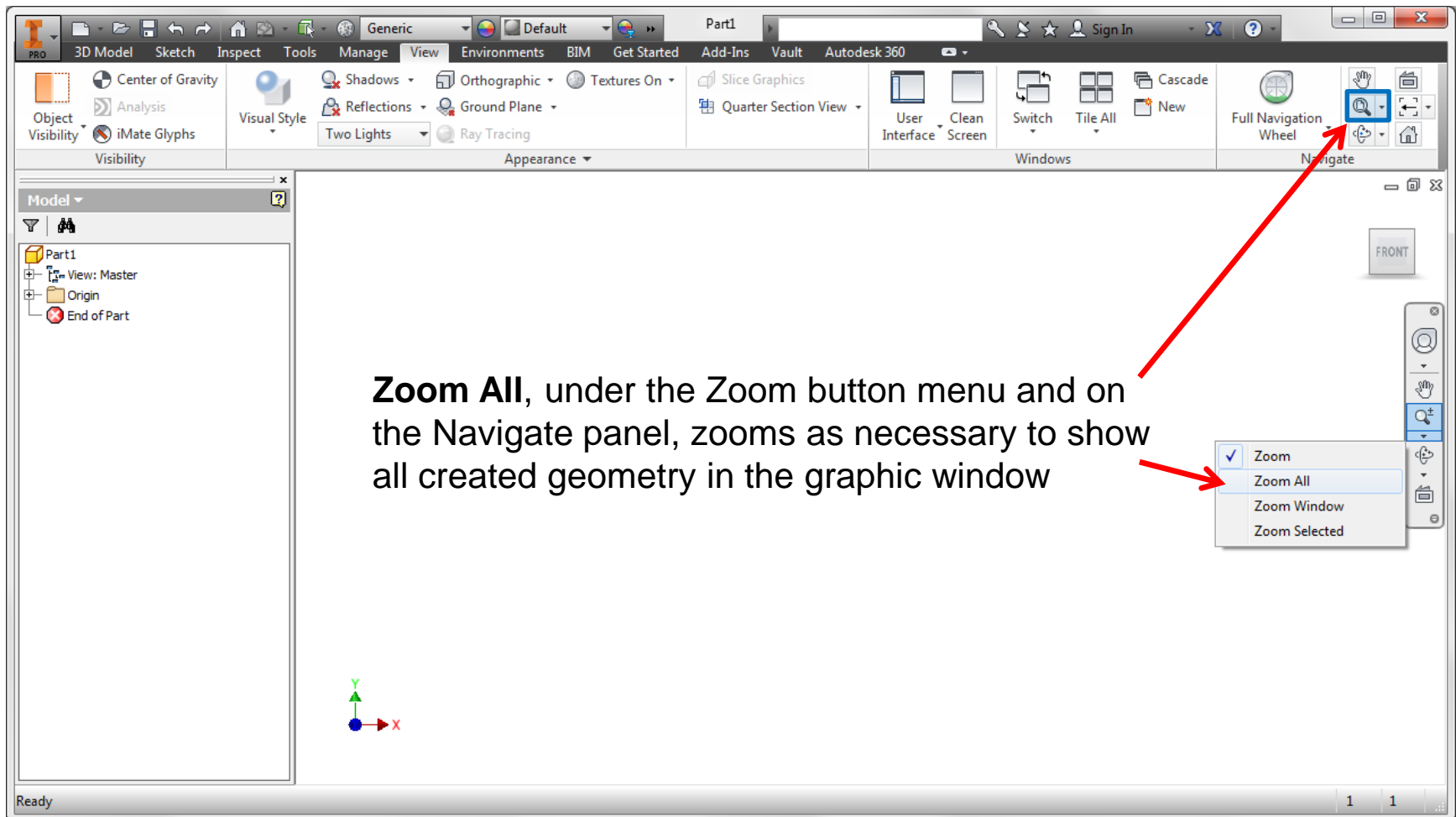Zoom

Zoom Window

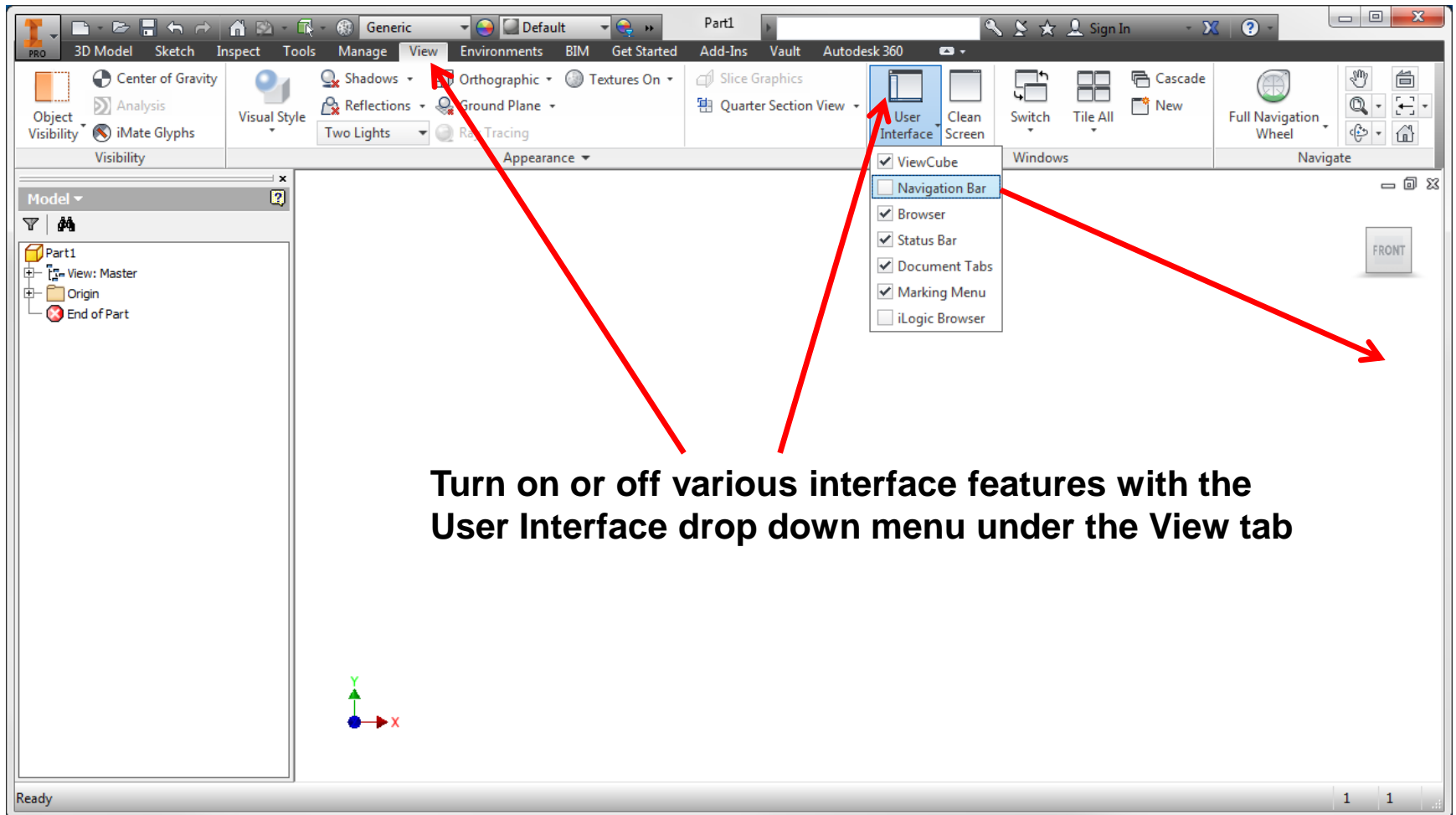Zoom All

Zoom Selected

Dynamic Rotation

Look At

Dynamic Viewing Functions
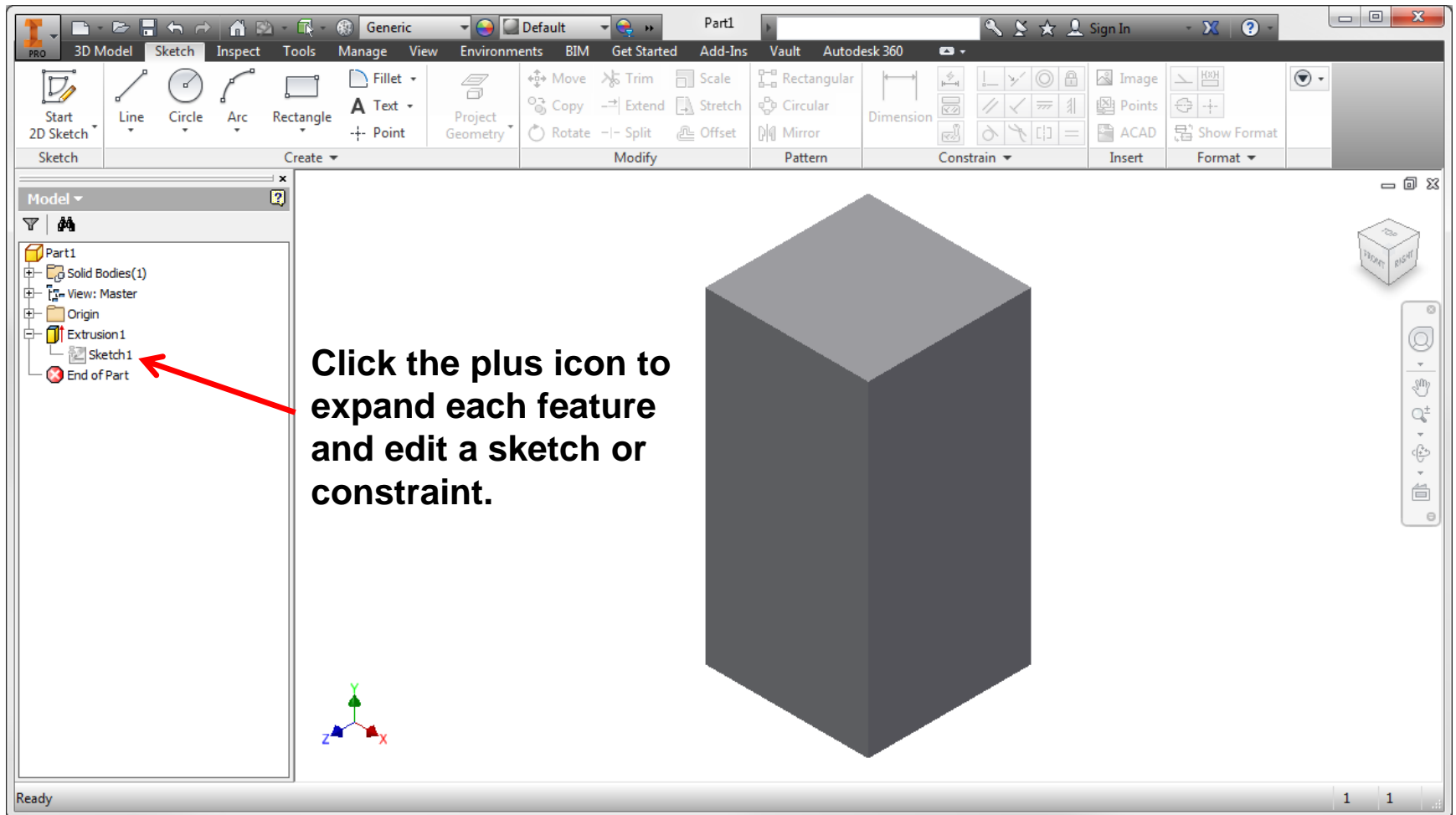
Zoom All, under the Zoom button menu and on the Navigate panel, zooms as necessary to show all created geometry in the graphic window

Recover Missing Menus

Turn on or off various interface features with the User Interface drop down menu under the View tab

Expand Browser Steps

Click the plus icon to expand each feature and edit a sketch or constraint.

Remove Unused Sketches

Delete extra or unassociated sketches and objects from the browser. Right click the sketch and select Delete.
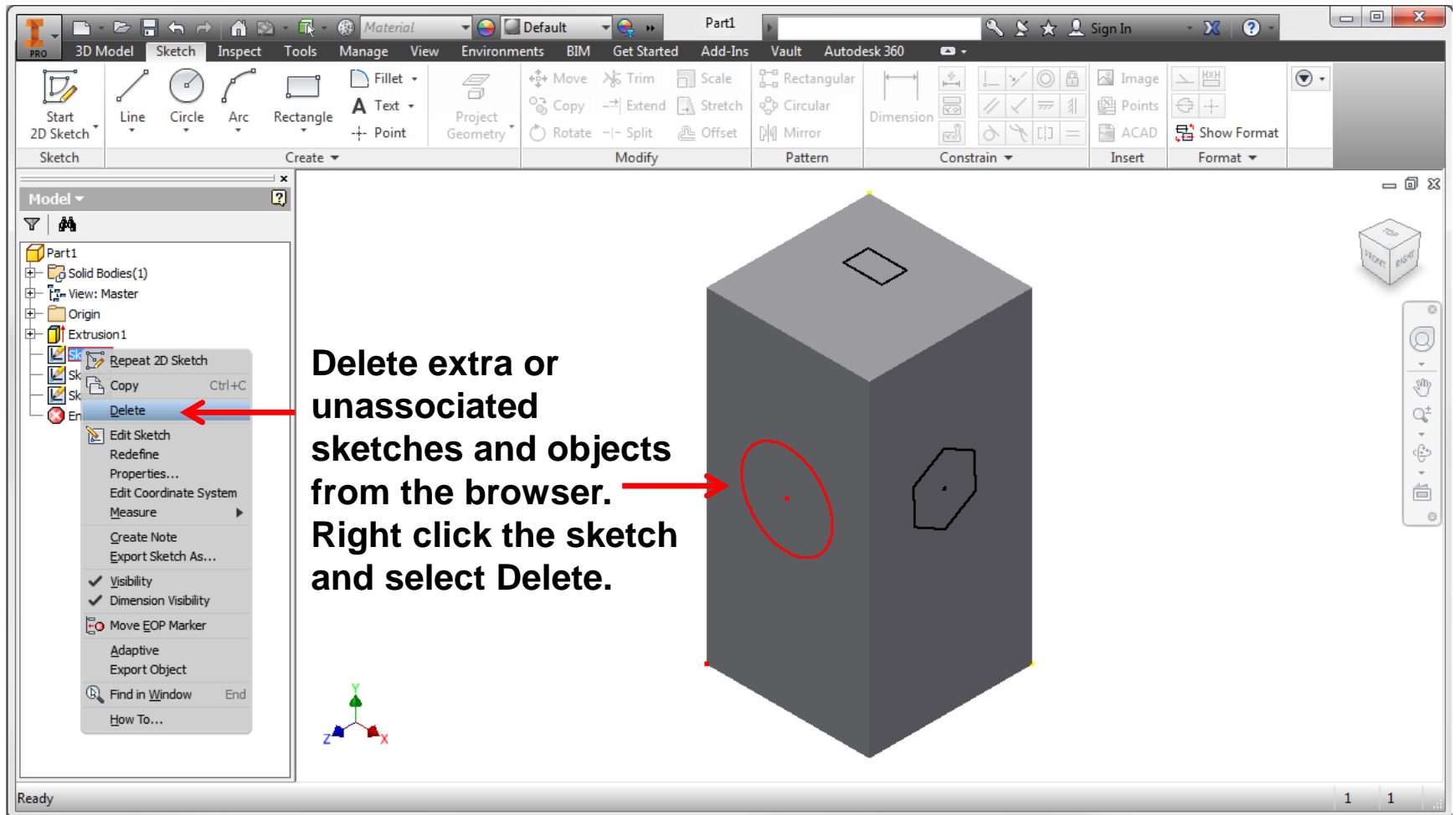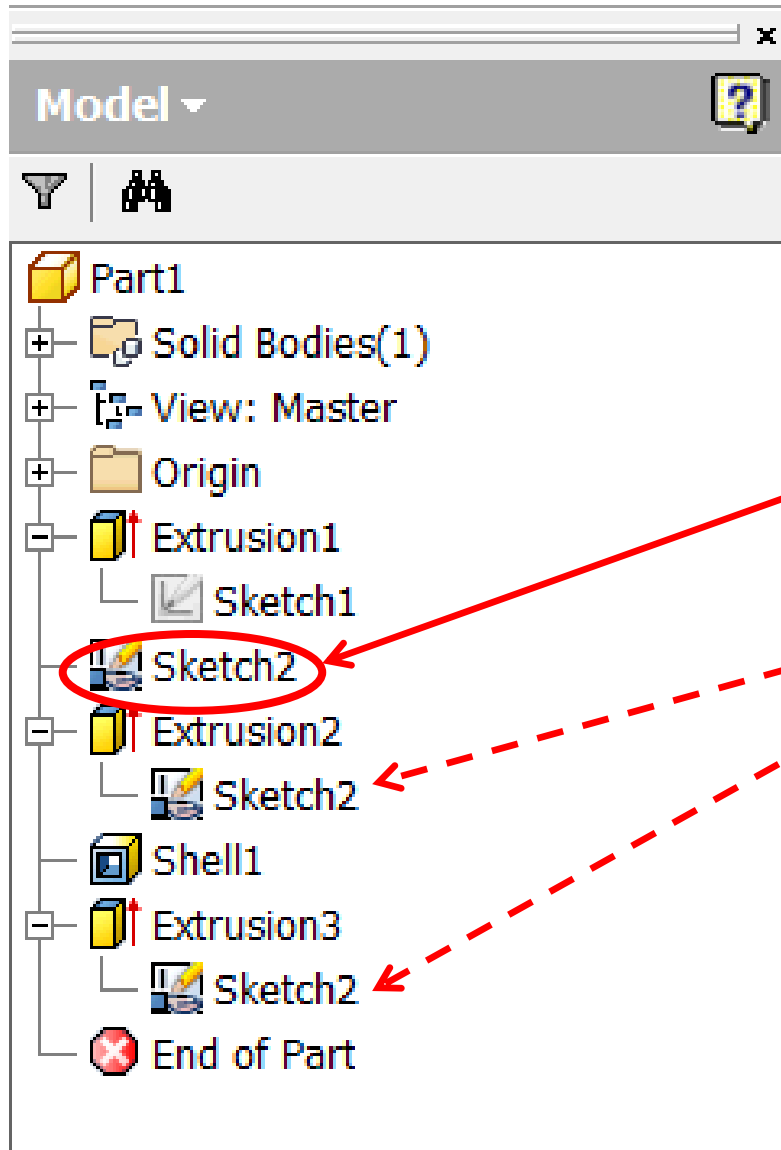
Shared Sketches
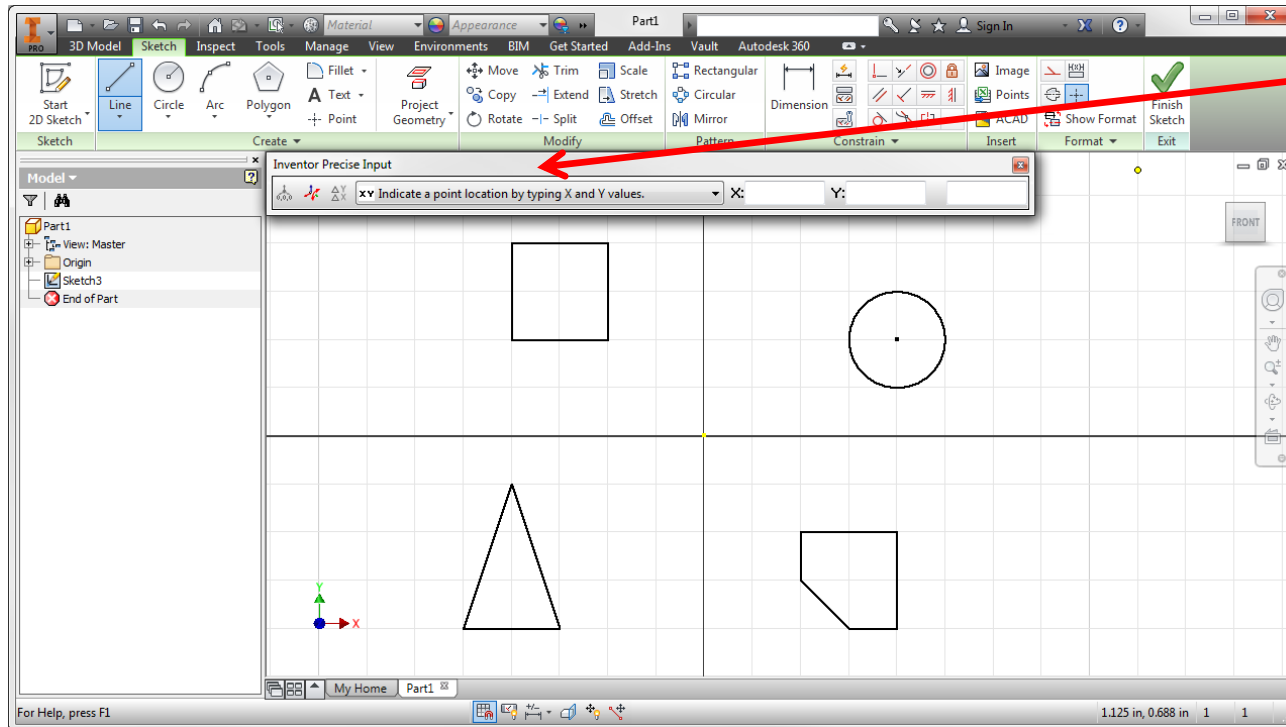
Precise Input

- **The Precise Input toolbar is added by expanding the Create panel and selecting Precise Input**

- **Create the shapes that you labeled in Activity 1.5.1 The Coordinate System and Descriptive Geometry.**

Image Resources

Microsoft, Inc. (2008). Clip Art. Retrieved November 4, 2008, from
http://office.microsoft.com/en-us/clipart/default.aspx