

Apex v5 Assessor – Introductory Tutorial

Apex v5 Assessor

Apex v5 Assessor includes some minor User Interface updates from the v4 program but attempts have been made to simplify the UI for streamlined work flow. The v5 release represents our 5th generation of Windows based property sketch and area calculation software application for desktop & notebook computers. Apex Assessor sketch is designed to be able to run as a standalone application or as an integrated sketch tool within a CAMA or other property record system. Apex Assessor has full printing and publishing capabilities and the sketch files can also be automatically saved to multiple image file formats as well as .SHP files for GIS & Mapping department needs.

This Tutorial:

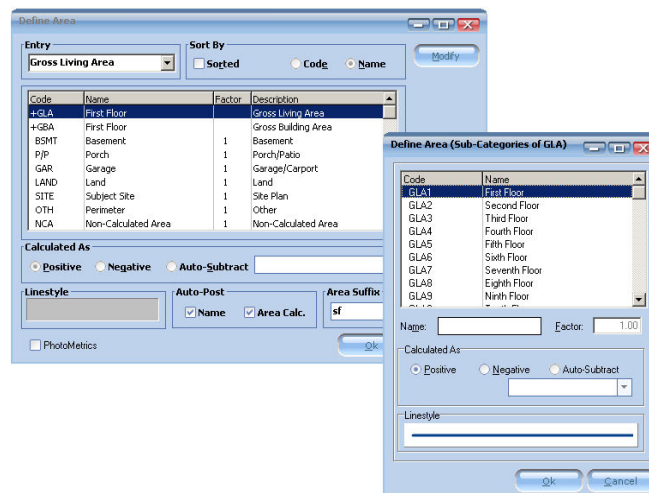
The 1st Drawing Lesson will guide you through sketching a simple rectangle Living Area and then adding a Garage. The Lesson teaches the drawing methods of using the mouse, using the arrow keys and then using the direct keyboard input drawing methods. The 2nd Drawing Lesson is a more complex building structure and focuses on using the keyboard drawing method. This tutorial was originally designed to be used for our On-Site Training services in conjunction with an Apex instructor.

Drawing Lesson #1

The Define Area dialog:

When beginning a new sketch, Apex will initially display the Define Area dialog so you can identify the polygon you are about to draw in order to correctly identify it for further valuation processes. The Area Code Table can be modified to use the local jurisdictions local Area Naming / Coding conventions. Please see the On-Line Manual for information on making modifications to this table. The area identification can be modified later if the usage type is changed or for other editing purposes. Apex also makes a provision for a “Draw First / Define Later” method but that is covered in more advanced tutorials.

Maneuver through these dialogs by selecting with the mouse, using the arrow keys and **[Enter]** key, or simply typing in the first few letters of the area description. Area categories with a “+” in front of them have Sub-Areas within that group. Select the GLA category and then GAL1 / First Floor, left click on the **[OK]** button or press the **[Enter]** key to return to the drawing pad.



The cursor will appear as a white arrow pointer and nothing will happen until you either press the **[Enter]** key or left click with the mouse to go to the “pen down” drawing mode. This will establish the **Point of Beginning** (POB) of the sketch you are about to draw.

A. Draw with the Mouse:

Left click with the mouse & note that the white arrow will become a cross hair. This establishes your Point of Beginning (POB) and you begin drawing by dragging the mouse to create a line the desired length. Notice that horizontal or vertical lines will initially display in a gray color. Angled lines will display the Rise & Run dimensions as construction lines.

Drag a line 40' to the right then left click with the mouse to anchor the line. The focus will shift to the dimension label so you can place it where you want or use the roller wheel on the mouse to change the font sizes up or down. Left click again to anchor the dimension and the focus will return to the end of the first line.

You are ready to draw the 2nd line. Draw a line 20' down. Left click to anchor the line & left click again to anchor the dimension.

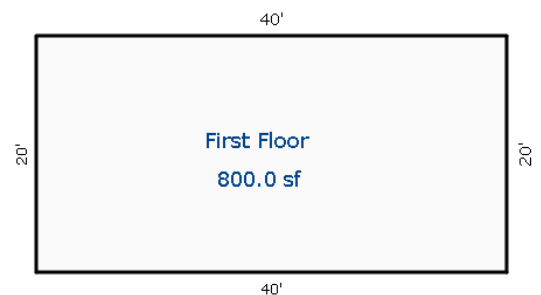
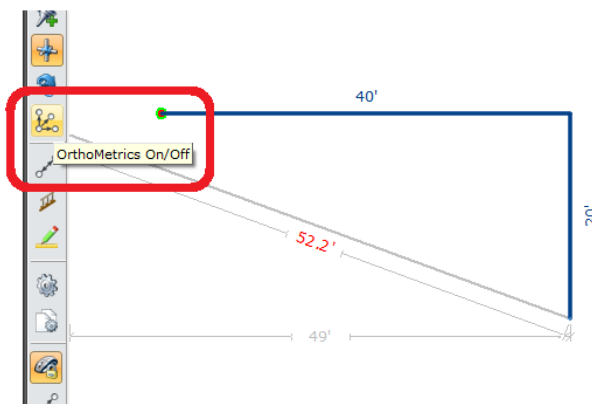
Note: The line dimensions will increase in whole foot increments by default. To draw in feet and decimal feet, hold down the **[Shift]** key. It is noticeably more difficult to draw with the mouse when drawing in feet and decimal feet but it is possible.

Orthometric drawing tool for enhanced mouse drawing: Orthometrics which will hold the mouse drawn lines to 45 degree increments to ensure your corners are drawn square and can be activated by selecting the tool on the left side of the screen. Hold down the **[Ctrl]** key while drawing with Orthometrics to temporarily allow drawing at any angle.

Draw the horizontal line to 40' to the left, left click to anchor the line and left click again to anchor the dimension.

Draw the remaining 20' line back to the POB. You will see a small “POB” display on screen when you drag the curser near the left end of the first 40' line. If you have your sound turned on, you will also hear a click or pop to indicate you have returned to the POB. Left click to anchor the line and then again to anchor the dimension.

Apex will display the Area Name (First Floor) as text in the box. Use the mouse to position the label. The roller wheel can be used to increase or decrease the font size. Left click to anchor the Area Name. The Area Calculation will post to the drawing next. Left click to anchor this text item after positioning it.



B. Draw with the Keyboard:

Define a 2nd area by either: (A) Selecting the Define Area button in Command Pad to the right. (B) Go to the Draw Menu and click the Define Area button or (C) Press the **[F4]** key for the keyboard shortcut.

When the Define Area dialog opens, you can maneuver down and up the list of categories with the **[↓]** or **[↑]** keys. For this tutorial, maneuver down to the **Garage** category and press the **[Enter]** key. Since there is only one Garage option in the default Area Code Table, a 2nd dialog box will open showing the default details of this area. While this dialog box is open, you can press the **[Enter]** Key to finalize the selection of the Garage and return to the drawing pad (no requirement for using the mouse).

Maneuvering the curser to a specific POB: The white pointer will appear somewhere on the drawing pad. To create a POB of the Garage at a specific location, press the **[J]** key to “jump to the nearest corner”. You can maneuver the curser position to a predetermined position by tapping the **[↓]** **[←]** **[→]** or **[↑]** arrow keys to move the curser in 1’ increments or typing in the specific distance from the current location.

For this tutorial, position the white pointer near the upper right corner of the existing sketch. Press the **[J]** key to jump to this corner. Now press the **[↓]** arrow key 3 times to move the pointer down 3’ (you can also press the **[3]** key & then the **[↓]** arrow key to move the pointer down 3’). Now press the **[Enter]** key to establish the POB of the Garage 3’ down from the upper right corner.

Draw a 20’ line to the right by either: (A) Pressing the **[→]** arrow key 20 times, (B) Press & holding the **[→]** arrow key until the line is 20’ long or (C) Simply pressing the **[2]** key, then the **[0]** key and then the **[→]** arrow key.

The 20’ line will be drawn to the right. Press the **[Enter]** key to anchor the line. You can use the arrow keys to change the position of the dimension (holding down the **[Shift]** key & arrow keys will move the dimension in 1/10’ increments). You can increase or decrease the font size by pressing the **[+]** or the **[-]** keys. Press the **[Enter]** key to anchor the dimension.

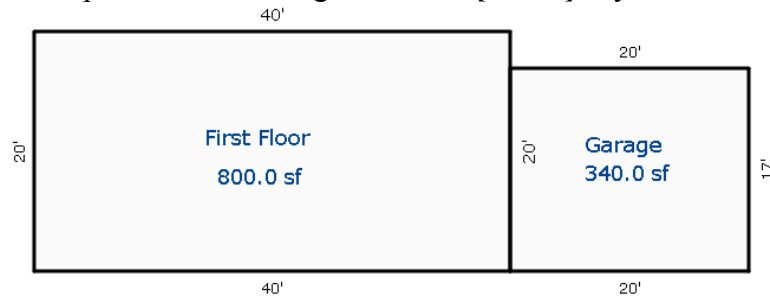
Next, draw a 17’ line down by pressing the **[1]** key, the **[7]** key and the **[↓]** arrow key. Press the **[Enter]** key to anchor the line and then press the **[Enter]** key again to anchor the dimension.

Draw the 20’ line back to the left by pressing the **[2]** key, the **[0]** key and the **[←]** arrow key. Press the **[Enter]** key twice to anchor the line and the dimension.

The last 17’ line has to be drawn back to the POB in order for Apex to close the Garage polygon. Rather than typing in the **[1]**, the **[7]** and the **[↑]** arrow keys, you can use the **[A]** key as the short cut for **AutoClose feature**. Press the **[Enter]** key one time to anchor the last line of the Garage. While the 17’ dimension is still red, press the **[Space Bar]** or the **[Delete]** key to remove it since it is repetitious.

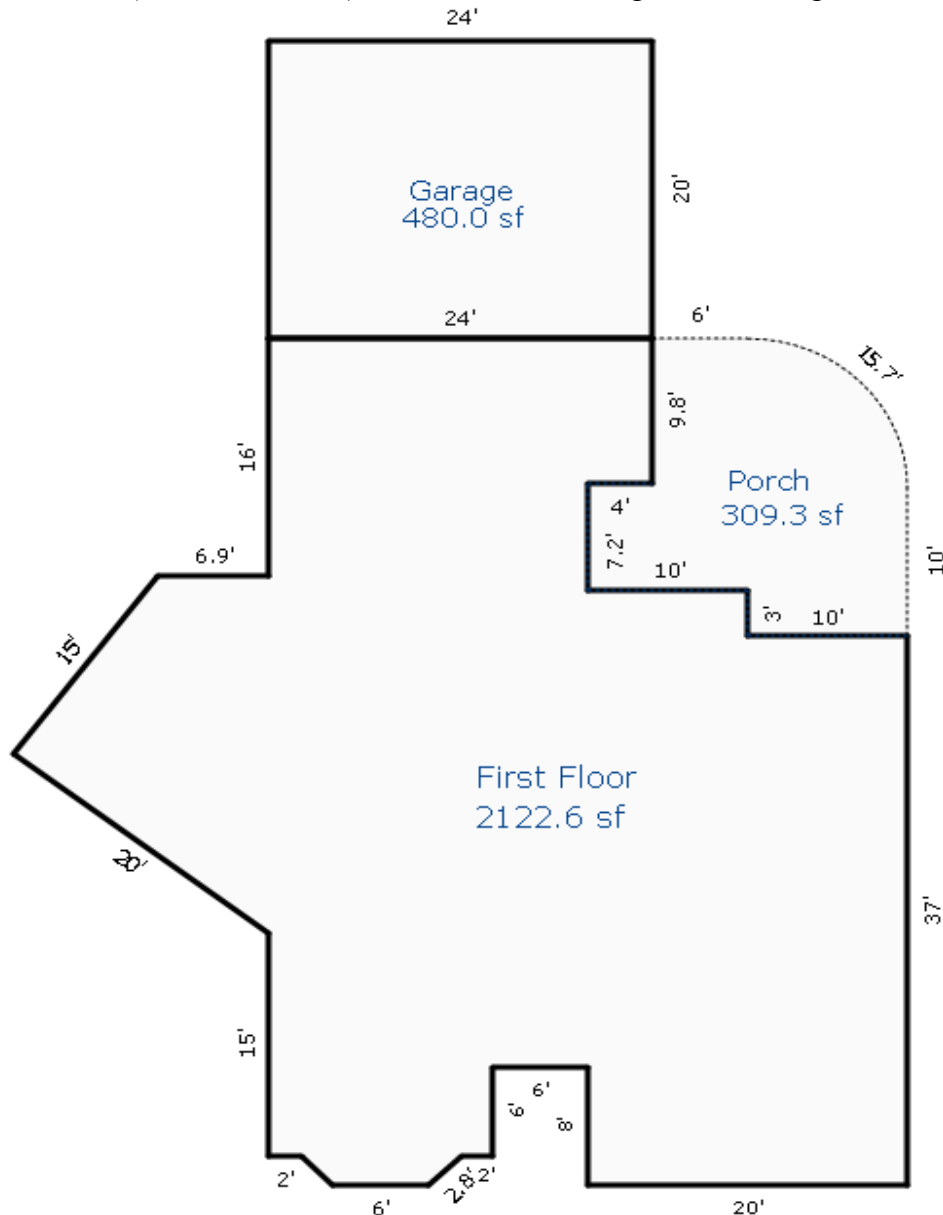
The Area Name (Garage) will be posted as text in the polygon you have just drawn. You can maneuver the position of this label with the arrow keys or increase or decrease the font

size by pressing the [+] or the [-] keys. Press the **[Enter]** key to anchor the label. Next the Area Calculation will post to the drawing. Press the **[Enter]** key to anchor this text.



Drawing Lesson #2

The following sketch is more complex and includes drawing angles, quick shapes and a curve example. Although you can draw the sketch from this lesson using the mouse, this tutorial is primarily designed to introduce you to additional keyboard drawing techniques and short-cuts. Open a new sketch file (File Menu, New). You will be drawing the following sketch:



Begin the Sketch:

For this tutorial, define the first area by selecting the **GLA, Gross Living Area** option and then select the **GLA1, First Floor** option on the Sub-Area dialog. After Defining the Area, you will be back to the drawing pad area. The curser is displayed as a white arrow pointer indicating the “Pen Up” mode. It can be moved with the mouse or with the arrow keys or other movement tools to a different point of beginning or to a strategic location on an existing sketch. Since this is the first area to be drawn, simply press the **[Enter]** key on your keyboard. The arrow will change to a circle with a cross hair to indicate the “Pen Down” or drawing mode. You are establishing the **Point of Beginning** (POB).

Note: You can also left click with the mouse to activate the “Pen Down” mode and draw with the mouse. However, this tutorial will focus on keyboard entry and use of numerical information for the measurements to complete this sketch.

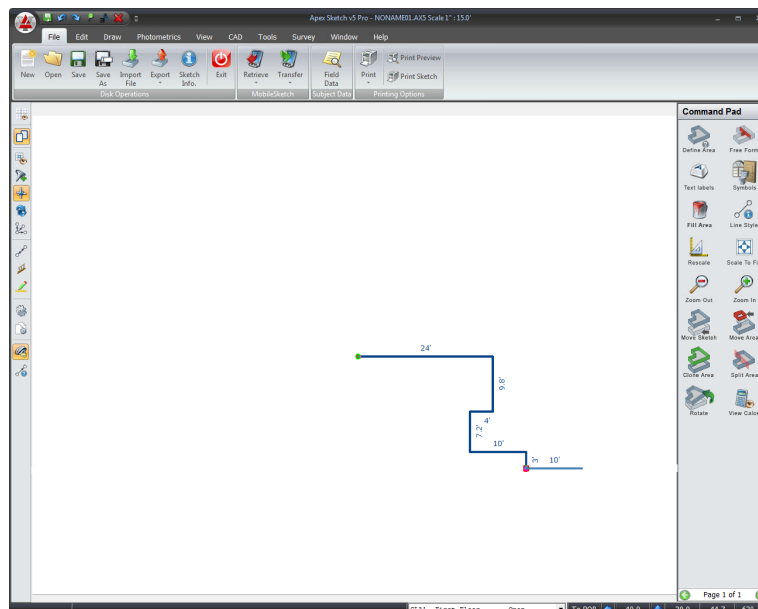
Keyboard Drawing:

Apex allows you to re-center and re-scale the sketch at any time so it doesn’t really matter where you establish the POB. Type the numbers **[2]** & **[4]** and then press on the **[→]** arrow key to draw the first line 24’ to the right. Press the **[Enter]** key to anchor the first line. Notice that the dimension is still free floating and can be moved with the mouse, the arrow keys or other movement tools to a more strategic location. For now, use the default dimension location and press the **[Enter]** key again to anchor the 24’ dimension. You have completed the first line of the sketch. Draw the line segments on the following page using the keystrokes indicated:

Line Drawing using keyboard:

[9]	[.]	[8]	[↓]	[Enter]	[Enter]
[4]			[←]	[Enter]	[Enter]
[7]	[.]	[2]	[↓]	[Enter]	[Enter]
[10]			[→]	[Enter]	[Enter]
[3]			[↓]	[Enter]	[Enter]
[10]			[→]	[Enter]	[Enter]

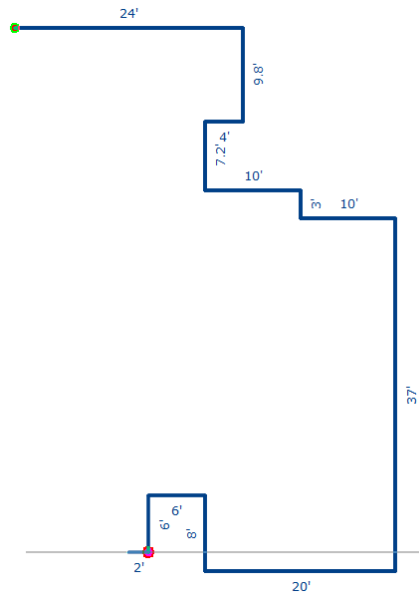
Your sketch may look like the following:



Re-center the sketch by pressing the **[C]** key on the keyboard. You can re-center the sketch as often as necessary. Continue drawing the next few lines and re-center **[C]** as often as necessary:

[3]	[7]	[↓]	[Enter]	[Enter]
[2]	[0]	[←]	[Enter]	[Enter]
[8]		[↑]	[Enter]	[Enter]
[6]		[←]	[Enter]	[Enter]
[6]		[↓]	[Enter]	[Enter]
[2]		[←]	[Enter]	[Enter]

Your sketch should look something like this:



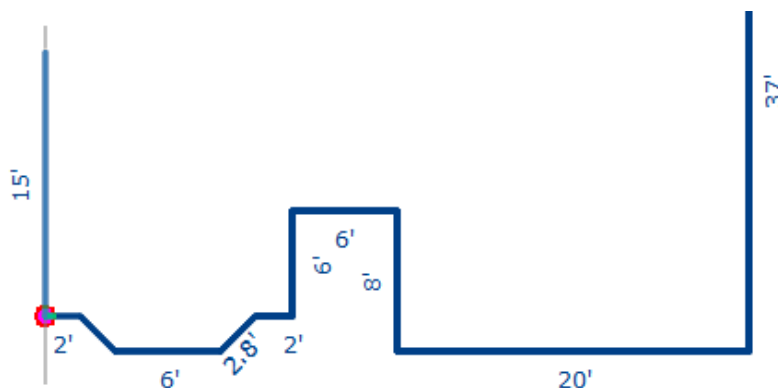
Drawing Angles:

The next line will be the first angle of a Bay Window. Apex can use the standard “Rise & Run” measurements for drawing angled lines. In this case the angled wall has a Rise & Run of 2’ left by 2’ down. The keystrokes for this wall are:

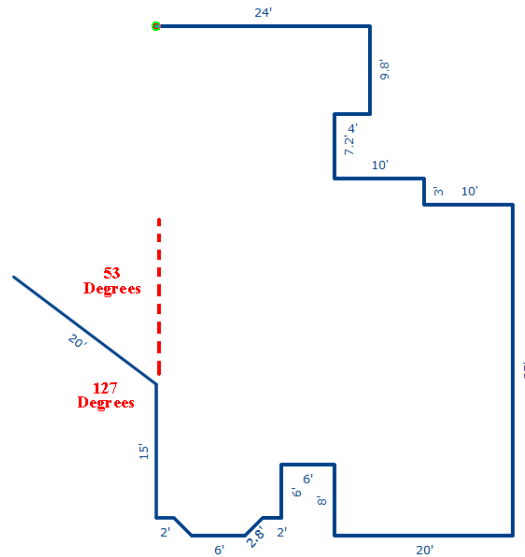
[2]	[←]	[2]	[↓]	[Enter]	[Enter]
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Apex will draw calculate the length the wall has to be based on the 2’x 2’ Rise & Run measurements. BTW, it does not matter which direction you draw first as the result will be the same. Continue to draw the rest of the Bay Window and subsequent lines:

[6]	[←]	[Enter]	[Enter]		
[2]	[←]	[2]	[↑]	[Enter]	[Space Bar to delete redundant text]
[2]	[←]	[Enter]	[Enter]		
[1]	[5]	[↑]	[Enter]	[Enter]	



We will now introduce an alternate method for drawing angled lines in Apex. In some cases obtaining the Rise & Run measurements may be very difficult if not impossible. Apex allows you to enter the actual degree of angle along with the wall length to calculate the Rise & Run for you.



In the sketch above, the angled wall is turning to the left at 53 degrees (Reference Mite-R-Gage angle measuring tool and discussion). The 53 degrees represent the “degree of departure” from the 15’ wall going up. The compliment of this angle is 127 degrees and represents the “Interior of the angle”. This angled wall can be drawn using either of the following sets of keyboard keystrokes:

[2] [0] [L] [5] [3] [Enter] [Enter] [Enter]

OR

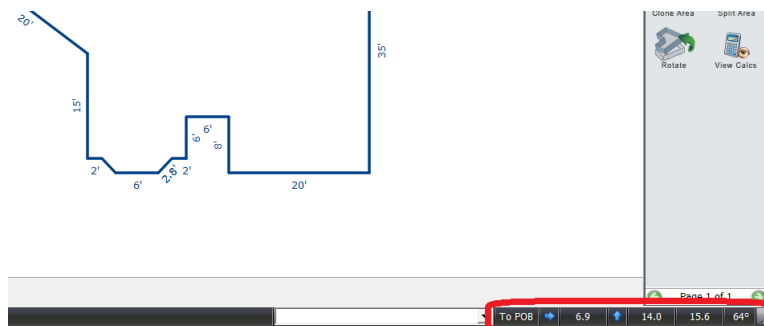
[2] [0] [L] [I] [1] [2] [7] [Enter] [Enter] [Enter]

The next line is 15’ long and angles back to the right. In this case, it is a 90 degree turn from the 20’ line we just drew. The turn feature in Apex will assume 90 degrees unless you key in a number after the [L] or [R] direction commands. The 15’ line angling back at 90 degrees is drawn as:

[1] [5] [R] [Enter] [Enter] [Enter]

Call to POP:

In the lower right corner of the screen you will notice a series of measurements indicating the distance and direction back to the POB. This information is updated each time that the line and dimension are anchored and can help you determine if the building is going to square or if adjustments may be required. In the image below, we see that the call back to POB is 6.9’ to the right and 14’ up.



If your field drawing or notes tell you that the vertical line should actually be 16’, you have to determine what vertical line(s) on the opposite side need to be adjusted. For this tutorial, let’s change the 35’ wall to 37’.

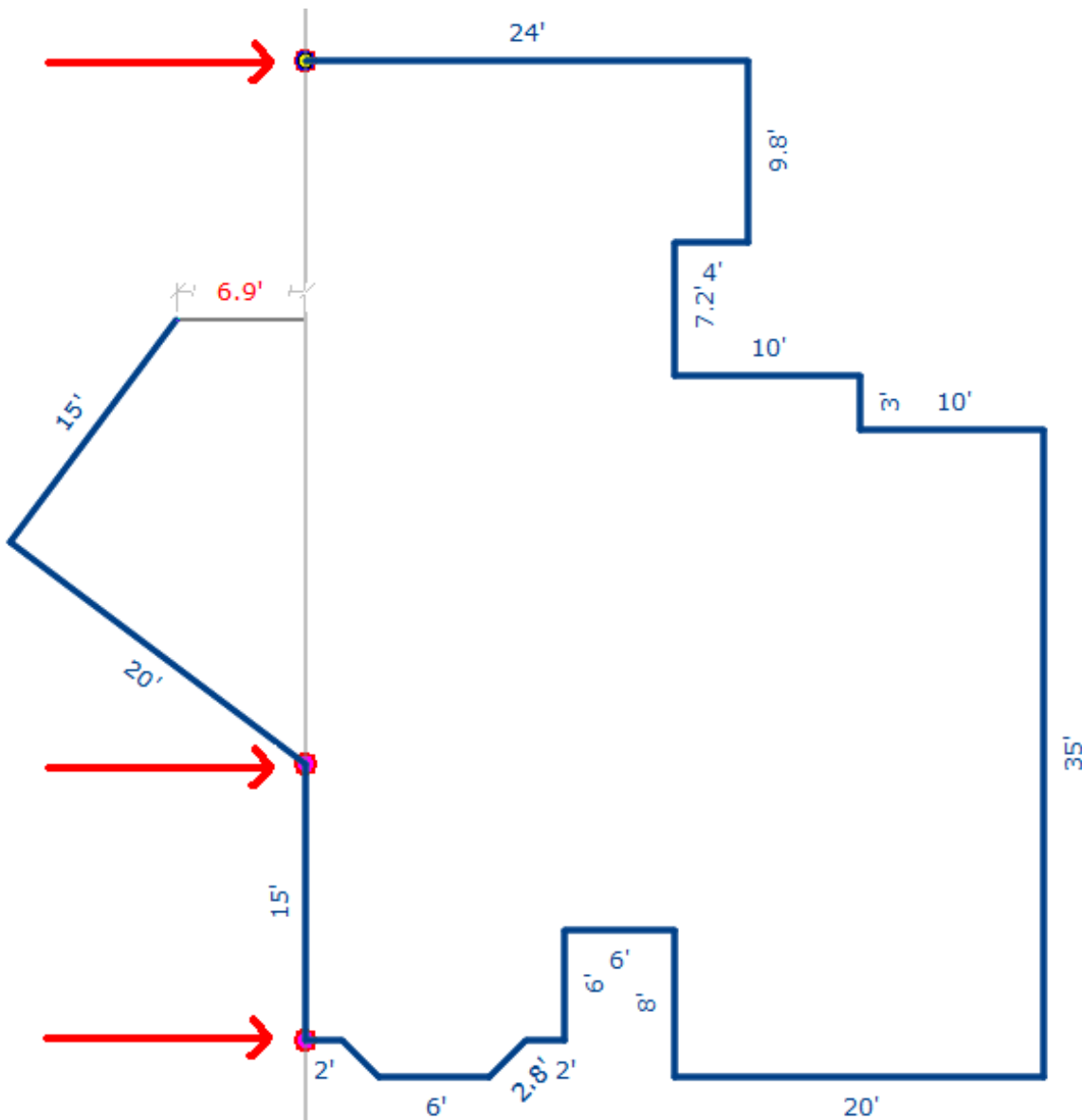
Delete and Insert Editing Tool:

Apex allows you to use the **[Delete]** key to erase one line at a time to go back to the 35' wall. To erase all the way to the 35' line, you will press the **[Delete]** key 13 times. Redraw the vertical wall **37' down** and anchor the line and the dimension.

Rather than having to redraw each of the subsequent walls, Apex has memorized each wall distance and direction. Press the **[Insert]** key one time for each line that you want to replace, including the angled walls. After Inserting the last 15' angled wall, your new call to POB will be 6.9' to the right and 16' up. (Delete back - Insert forward)

Alignment Tool:

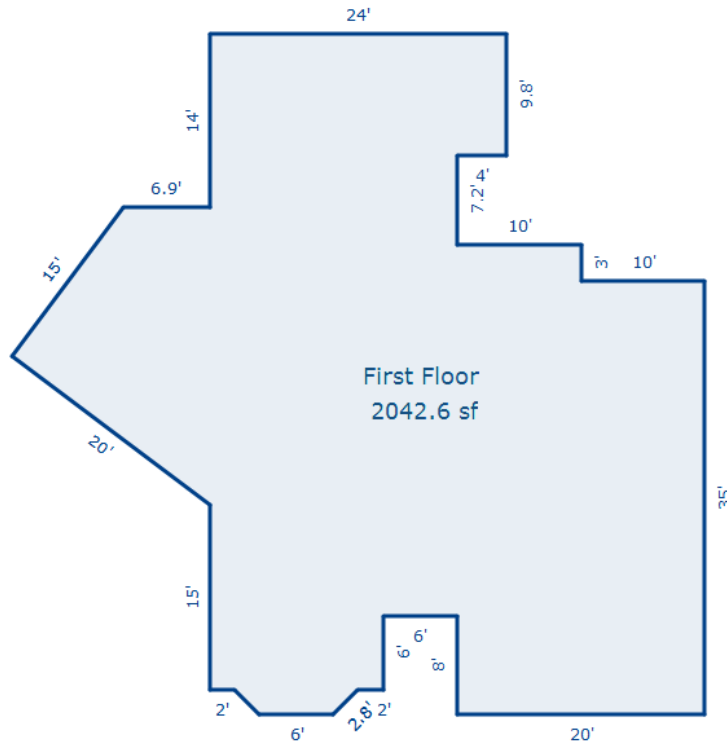
Although we could type in the 6.9' and 16' wall lengths, Apex provides Alignment and Auto Close features. The Alignment tool ensures that the 6.9' horizontal line matches exactly to the POB position above. To use the Alignment tool, press and hold down the **[Ctrl]** key and then press the **[→]** arrow key. The line will "pop" to the right until it comes into alignment with another reference point on the sketch. As shown below, it will align with the POB as well as with both ends of the 15' vertical line. (The visual confirmation may be dots or full screen lines - see Reference Manual for configuration options for the Alignment tools). Anchor the 6.9' line and the dimension.



Auto Close Tool:

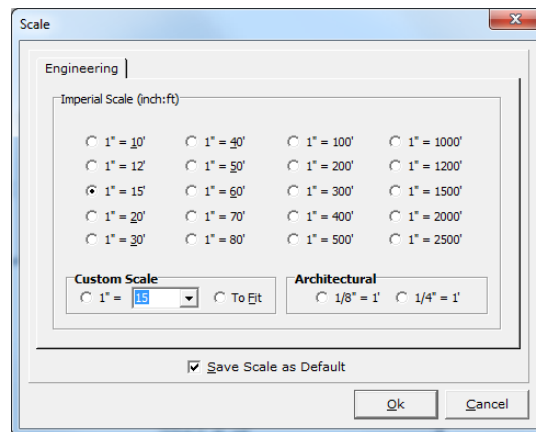
For the final line to be drawn, you can simply press the **[A]** key to draw the remaining 16' wall and the first area polygon will be completed. Apex will automatically post the Area Name as text and you can position it with the mouse, the arrow keys or other movement tools. Press the **[Enter]** key to anchor the Area Name and then the Area Calculation will also appear as text information on the sketch. Position this item and then press **[Enter]** to anchor it also.

Your drawing should look something like this:



Drawing Subsequent Areas / Quick Shape Tool:

We'll draw the Garage next and it will attach to the First Floor along the 24' wall at the top. First, let's re-scale the sketch and reposition it down a few feet to make room for the Garage. The short-cut to re-scale the sketch is the **[Ctrl]** key and the **[R]** key.



The Scale dialog will open and you can select various scale options with the mouse but note that the dialog will open with the focus on the Custom scale. You can simply type in the number you want to re-scale to. In this case, type in the number **15** and press the **[Enter]** key. The sketch will be rescaled to 1:15 and you may need to re-center the sketch.

You can also move the entire sketch with a single short cut keystroke. Press the **[M]** key and use the **arrow keys** to maneuver the sketch towards the bottom of the screen. This will give you additional room at the top of the drawing page to draw the Garage.

Use the **[F4]** key to define the next area and select Garage. Although you can position the cursor in a strategic location to begin to draw all four walls of the Garage, since it is a 24'x 20' rectangle, we will use the **Quick Shape** tool for another short cut.

Diagram illustrating a lot with a building footprint and a driveway. The lot dimensions are 15' (left), 10' (right), and 10' (bottom). The building footprint is 24' wide and 14' high. The driveway is 10' wide and 7.2' high. The building footprint is 9.8' high on the right side.

The diagram illustrates a building footprint with the following dimensions and area calculations:

- Garage (Top Section):**
 - Width: 24'
 - Height: 20'
 - Area: 480.0 sf
- First Floor (Bottom Section):**
 - Left side dimensions (from top to bottom): 15', 20', 15', 2', 6', 2.8', 2', 6', 6', 20', 37'.
 - Right side dimensions (from top to bottom): 9.8', 7.2', 4', 10', 3', 10'.
 - Top boundary dimensions (from left to right): 6.9', 16', 24'.
 - Area: 2122.6 sf

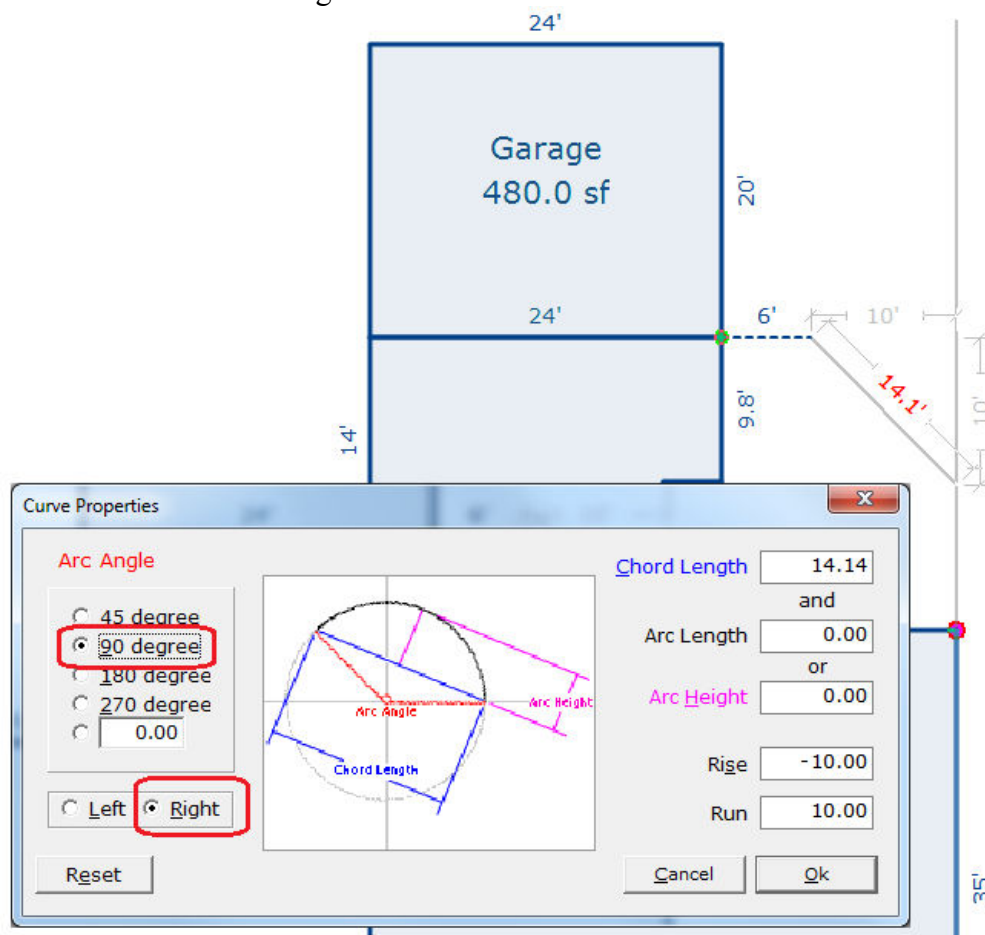
Define the Porch:

We will introduce a new short cut on this porch so we will pick a specific POB where the First Floor and the Garage intersect with the Porch.

Define the Porch and return to the drawing in “pen up” mode. We want to establish the POB at a specific location. Move the white pointer close to the intersection of the First Floor and Garage above the 9.8’ vertical wall on the upper right part of the sketch. Press the [J] key to “jump” directly to that corner. Press [Enter] to establish the POB.

We will introduce a curve that begins 6’ away the POB. Draw the first line 6’ to the right and anchor the line and dimension. Next, use the POP feature ([Ctrl] & [→] keys) to determine that the distance to the right alignment point of this sketch is 10’ to the right – **DO NOT press [Enter]**.

The curve is a rounded corner so we’ll draw the **chord** (imaginary straight line between the beginning and end of the curve) at a 45 degree angle. By definition, a 45 degree angel will have the same Rise and Run so now draw 10’ down (see below). **DO NOT press [Enter]**. Press [F7] to bring up the Curve Functions dialog.



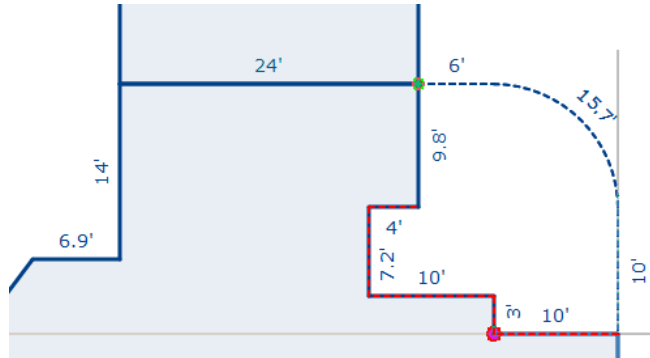
You can use the [Tab] key to maneuver through this dialog but we will use the default 90 degree curve and leave it set to turn to the Right. Press [Enter] to accept these settings. The angled line will become a smooth curve turning down and to the right. Press [Enter] twice to anchor the curved line and dimension. Draw another line 10’ down or use the POP feature ([Ctrl] & [↓] keys) to align with the next corner (see next page)

Note: Apex provides several options and tools for drawing curves that are affective based the various types of field measurements that can be obtained.

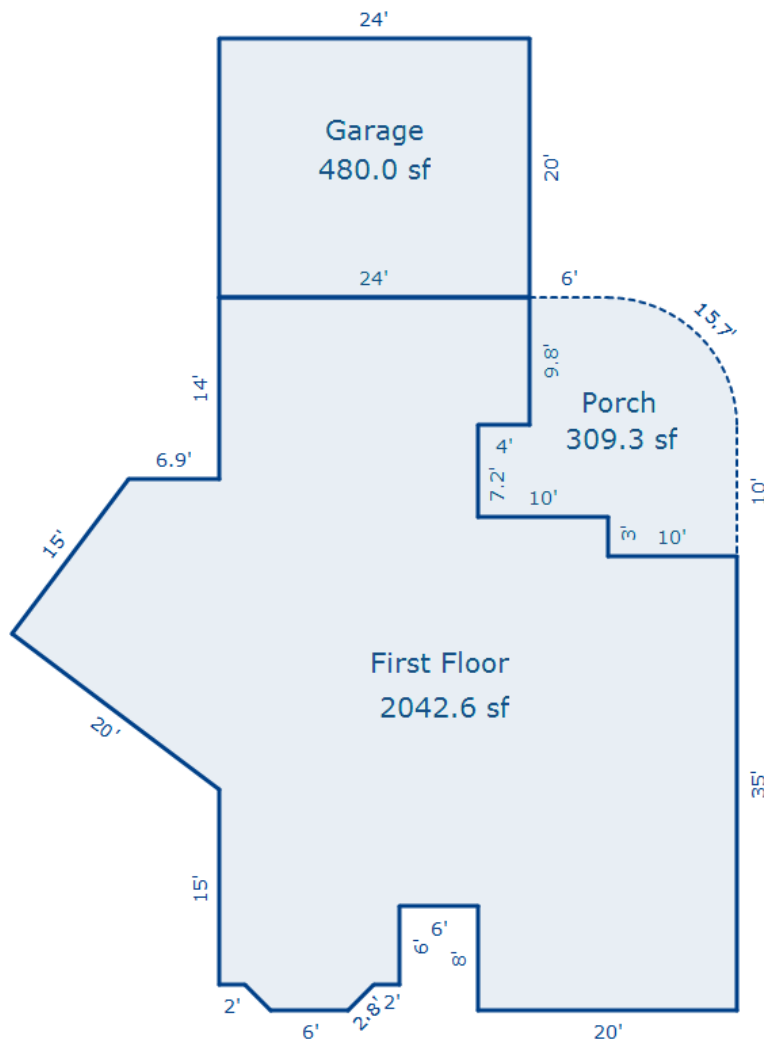
Auto Trace Feature:

Although we know that the common walls will finish the Porch, the software needs to be instructed where those lines should exist. The Auto Trace feature is like Auto Close except it will follow a series of common walls on its path back to the POB. By pressing **[Ctrl]** and the **[F3]** keys at the same time, Apex will automatically trace the 6 remaining walls back to the POB we established at the intersection of the 24' horizontal wall and 9.8' vertical wall. The Area Name and Calculation text will automatically post to the sketch image. Your drawing should look like the following:

Curve Example while Auto-Trace is running:

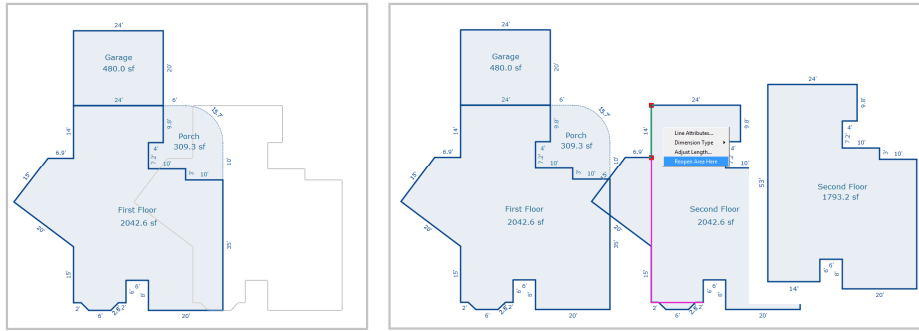


Note that the additional wall dimensions for the common walls do not post when using the Auto Trace feature. The area Name and calculation information text will automatically post to the sketch image. Your drawing should look like the following:



Clone Feature – Flip or Mirror:

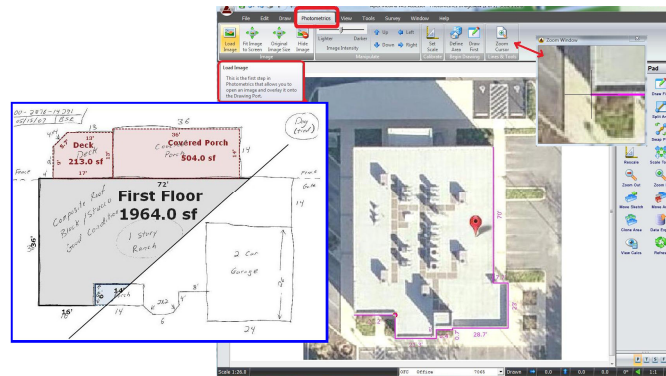
The Clone feature is similar to Copy & Paste but allows you to automatically recreate a polygon or group of polygons as different types of areas (i.e. Clone a 1st floor area as a 2nd floor area). You can reopen polygons on any line for quick editing where the shapes are not exact duplicates. **See Demo**



The Clone feature also allows you to Flip or Mirror the shape of the polygon which deal for duplex type structures or where symmetrical shapes are used in the building.

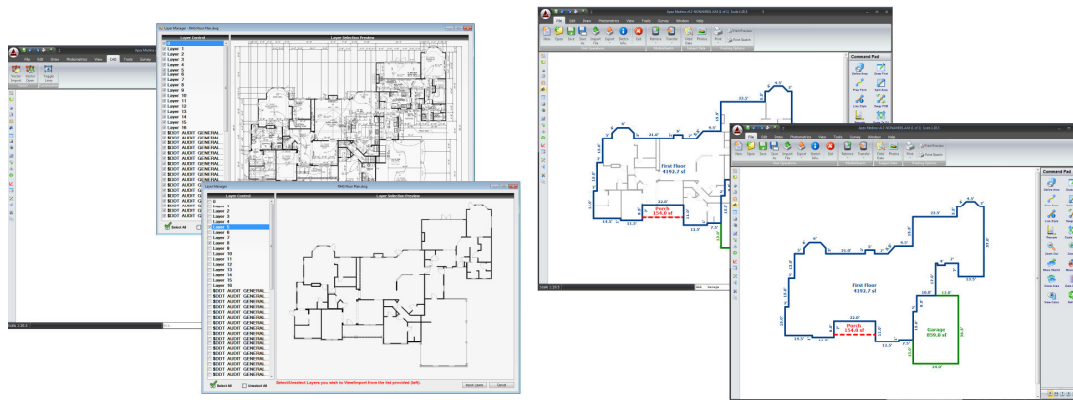
Photometrics Tool:

Photometrics allows users to basically import any type of JPG, BMP or PDF image to use as a template or reference to draw from – right on the screen. The image can be from a hand drawing, a blue print or site plan or even aerial imagery. **See Demo**



CAD Module option:

Apex CAD Module lets you open standard CAD files and turn off unwanted layers such as electrical or plumbing. The remaining walls can be imported directly into Apex along with their original scale information. Use the POP Feature to quickly trace over the desired sections to create the area polygons for valuation. Internal walls can be kept for added information or removed for simple sketch graphics. **See Demo**



[illegible]