a la mode Training

Accurate Sketching Made Easy

Non-CE Webinar and Video version

updated 12/1/2016 by Joel Baker

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What's in this book?

This book contains sections corresponding to each session presented at the workshop. It also has valuable step-by-step instructions to help you remember what the instructor did without having to take too many notes. Remember, this is your notebook! Please feel free to mark it up as you see fit and take it with you when you return to your office.

In addition, look for these icons throughout the book:

When you see this icon, you know we have a previously published tech tip on this specific topic. You can see it again in video form at www.appraisertips.com.

This icon means that we have a tech doc available with additional useful information. Just go online to http://www.alamode.com/appraiser/support and enter the four-digit number to find it.

Important tips or details related to the topic at hand.

Asking Questions

Interaction is one of the best things about being at an in-person class. We recognize and encourage you to ask questions throughout the course of our workshop. Just raise your hand and the instructor will call on you. Productive discussion contributes to the overall success of our classes, and we would rather address questions in real-time (to a reasonable degree) than all at once at the end of each section.

It's also common for questions of a technical support nature to arise, usually prefaced with phrases like "On my system…" or "When I click on that it…" Please reserve these questions for a break. We're happy to help you individually with these issues, but want to keep our classroom time focused on what will help everyone out the most.

If a technical support representative is in attendance, seek them out during a break or after class to help you resolve these types of issues.

Session Details

Course objectives — 10 minutes

Find out what you can expect during this course.

Sketching essentials — 80 minutes

In this session, we'll cover key processes required to produce a basic sketch for an appraisal report. Starting with an overview of the program, we'll then cover beginning drawing techniques, defining area properties, managing pages, and adding symbols and labels.

Attendees will be able to:

- Explain the basic drawing modes for TOTAL Sketch, including exterior and interior walls, modify, and pan.
- Recognize the difference between active drawing mode and "pen up" mode.
- Demonstrate drawing of basic straight, angled, and curved lines.
- Correctly employ negative areas to accurately adjust GLA.
- Choose the appropriate area type definition to ensure the accurate outcome of sketch calculations.

Advanced sketching techniques — 40 minutes

Building on the basics covered in Sketching Basics, our Advanced Sketching session covers more complex editing techniques, drawing interior walls and floorplans, and customizing your sketcher's settings and area properties.

Attendees will be able to:

- Demonstrate reopening an area and revising previously drawn lines without deleting large portions of their sketch.
- Illustrate what a property's specific floorplan looks like by drawing interior walls.
- Configure their sketcher to display sketches in their preferred visual style.

Solving measuring problems using a DISTO™ — 40 minutes

Learn how to utilize your laser measuring device as effectively as possible, increasing the accuracy of your measurements and improving your overall efficiency. We'll cover basic DISTO usage and practical solutions for common in-the-field challenges when measuring a property.

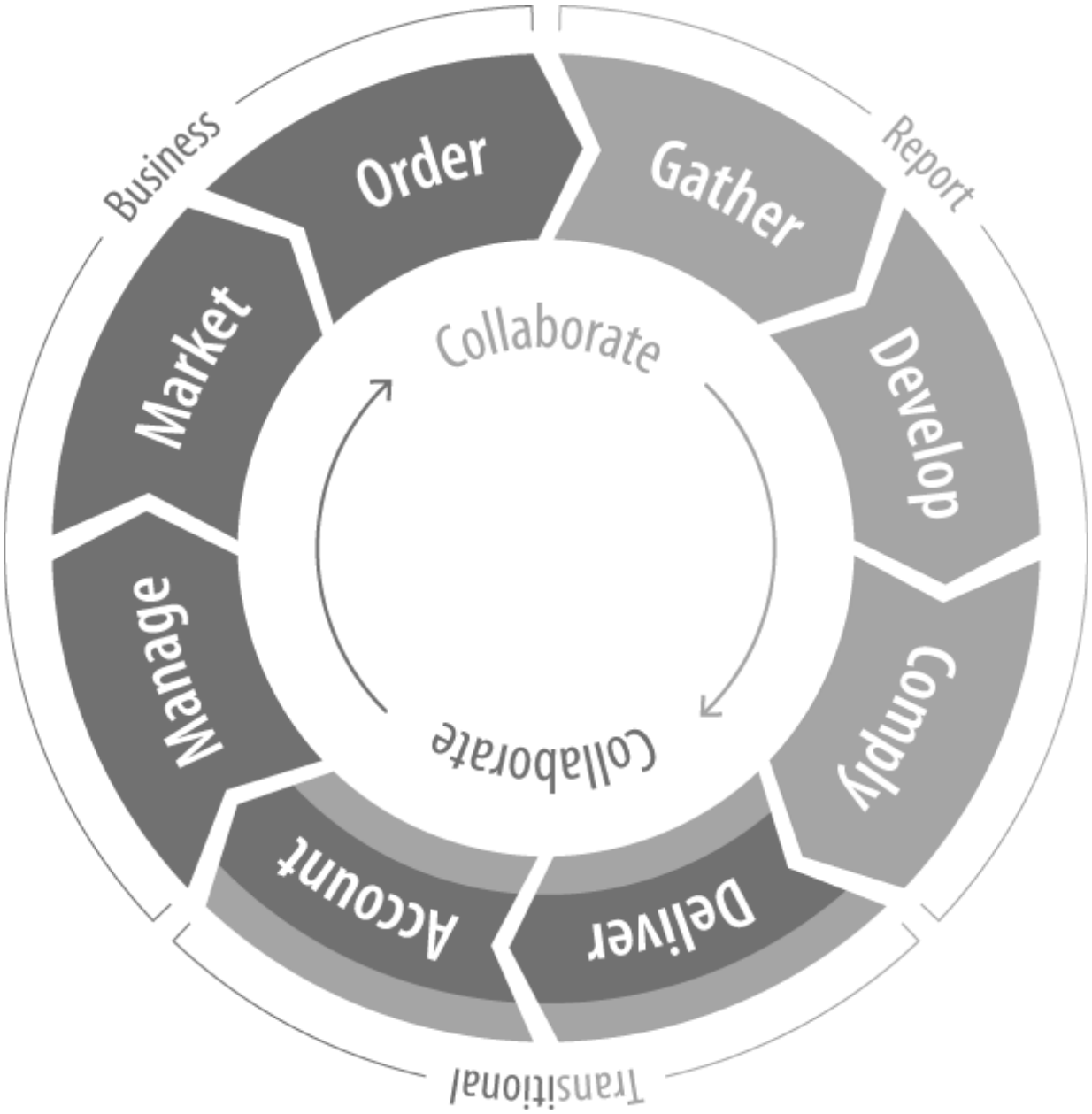
Attendees will be able to:

- Describe important settings that need to be adjusted "out-of-the-box".
- List the key DISTO functions used in the field.
- Demonstrate how to use a DISTO to take measurements using additive and subtractive functions.
- Recognize the correct advanced function to use when specific measurement challenges arise.
- Utilize the digital point-finder to help located targets on DISTOs equipped with that feature.

The Appraisal Wheel

After decades of working with appraisers, we've got a pretty good idea of what the appraisal process looks like. It's so much more than just typing data into the forms, especially in recent years. This deep understanding helps us to understand how appraisers work and what you have to do to get your work done.

The wheel summarizes what we've learned about the world of appraisers. Everything an appraiser does as part of their everyday routine falls into one of the segments below, and we'll use it to demonstrate where each piece we cover in our course falls within the overall appraisal process.



Course Objectives

Purpose of this class

PRODUCTIVITY COMPLIANCE

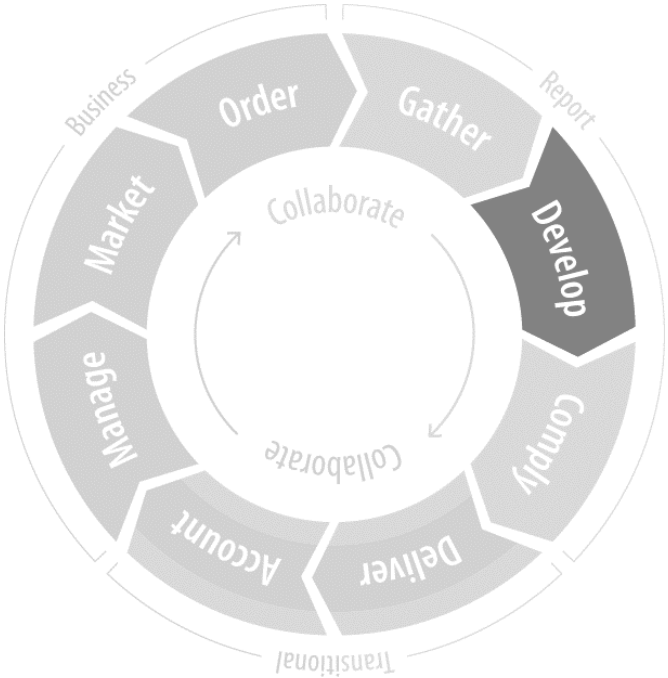
Most appraisers know just enough about their sketcher to "get by." But getting by doesn't cut it anymore. You need to know how your sketcher truly works in order to make your sketches stand out against the competition and ensure that they're the most accurate sketches possible. You certainly don't want to deliver a report to a client with a misleading sketch simply because you don't understand the software well enough to clarify certain details.

For example, in this course, you'll pick up useful tips designed to improve:

- **Efficiency** – Get your sketches done faster without compromising
- **Accuracy** – Make sure your field measurements are taken accurately, and taken in a way that translates well into the electronic report
- **Productivity** – Learn better, more effective methods for editing and correcting areas
- **Appearance** – Advanced understanding of TOTAL Sketch's configuration allows you to improve the way your sketches look, making them visually more appealing

Our goal with this course is for you to walk away with the knowledge and confidence to improve your sketching, and better communicate your inspection sketch to your clients.

Sketching Essentials

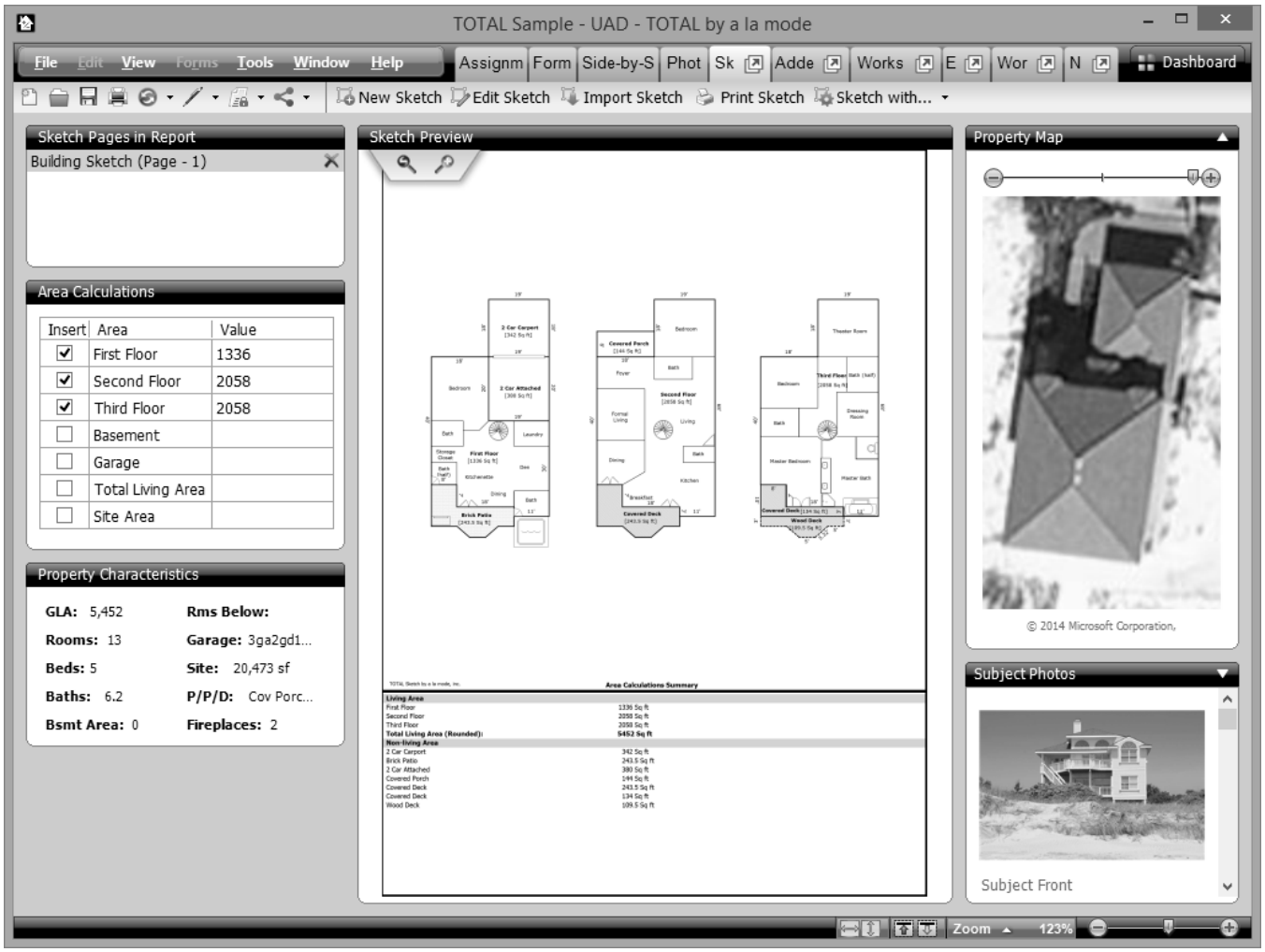


Introduction

TOTAL Sketch works seamlessly within TOTAL, and is already installed - so there's no need for additional software to create sketches. Plus, you don't have to worry about getting support from a third party if you have a problem with a sketch. If you're using or planning on using TOTAL for Mobile for your field data gathering and sketching needs, then you'll also need to use TOTAL Sketch on your desktop as well.

An overview of the Sketch PowerView

Before we jump into TOTAL Sketch itself, let's take a moment to examine the Sketch PowerView in TOTAL.



From this view, you can:

- Choose your preferred sketcher.
- Delete sketch pages.
- Review sketch calculations and control whether they are automatically inserted into your report.
- View important subject property characteristics.
- See an overhead view of the subject property and your photos for reference.

If you've been using a 3rd party sketcher such as Apex® Sketch or RapidSketch® and now want to use TOTAL Sketch, you'll need to change your default sketcher to TOTAL Sketch.

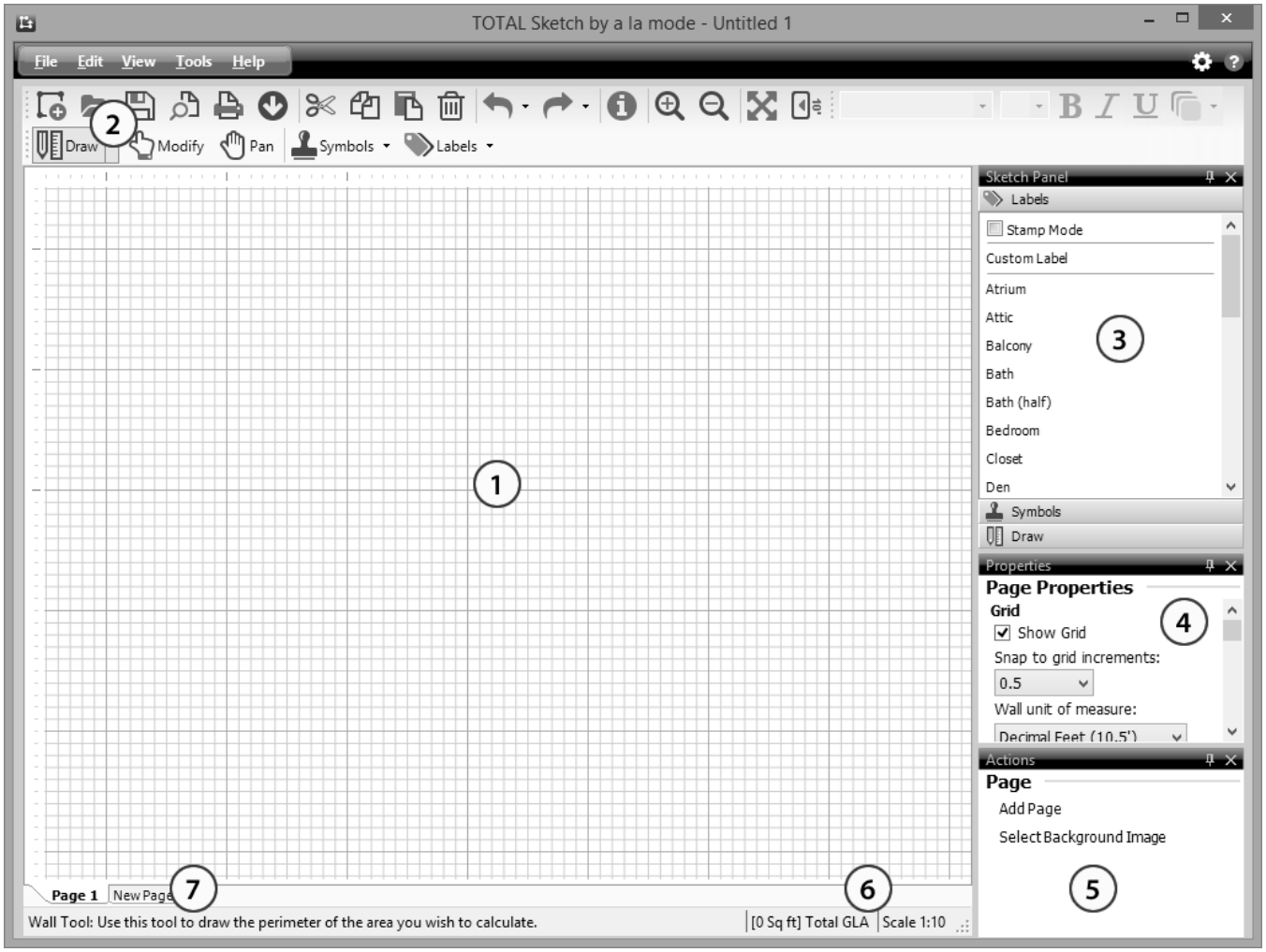
Task: Set TOTAL Sketch as your preferred sketcher

1. Navigate to the **Sketch PowerView**.
2. From the **Sketch With** drop-down menu, choose **TOTAL Sketch by a la mode**.
3. Click **New Sketch**, then choose **Building Sketch** from the drop-down. TOTAL Sketch opens.

TOTAL Sketch

TOTAL Sketch is a la mode's revolutionary sketching program designed to make sketching as easy as the rest of your report. By eliminating a lot of the traditional sketching conventions, TOTAL Sketch frees you to draw your sketch in the order you want without having to regularly retrace walls, backtrack through your sketch to make corrections, or remember the correct order to draw each area.

Let's take a quick tour of TOTAL Sketch.



1. **Drawing Grid** – This is a true "to-scale" grid. Each of the smaller squares represents one square foot, and each of the larger boxes you can see represents one hundred square feet.
2. **Drawing tools** – On the main toolbar, these are your primary drawing tools. You'll use these to complete your sketch.
3. **Sketch Panel** – This panel contains expandable panes housing the labels and symbols features of TOTAL Sketch.
4. **Properties Panel** – For any selected item, the properties panel allows you to view and modify properties such as size, font, style, etc…

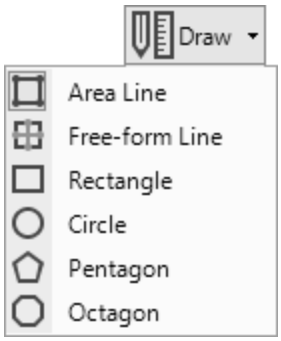
5. **Actions Panel** – Items in the action panel allow you to manipulate the selected item. They are the same action choices you would see by right-clicking on an item on screen.
6. **Area Calc Summary and Scale** – As you move your mouse and hover over each area, this status updates to reflect the area summary and scale of your drawing.
7. **Pages** – Many appraisers like to place additional areas on separate pages. The page management features allow you to quickly add a new page or jump to an existing page.

Common keystrokes

PRODUCTIVITY

Here are some common keystrokes and functions you're going to want to be familiar with as we get started with our sample sketch:

- **Undo/Redo (CTRL+Z, CTRL+Y) –**  On your toolbar you'll find buttons for undoing the most recent action you took, and/or redoing it on demand. If a specific action you take doesn't have the result you were expecting, use CTRL+Z to undo it and go back to your previous step.
- **Fit to screen (C) –**  Clicking on this, or pressing **C** at any time auto-fits your drawing to the screen.
- **Pan (Hold spacebar) –**  If you're zoomed in and need to see a different part of your sketch, click **Pan** and then click-and-drag the drawing area with your mouse.
- **Drawing Modes** – TOTAL Sketch has several types of drawing modes.
    - **Area lines (X)** – This mode results in a closed, defined area with calculated sq. footage.
    - **Free-form lines (I)** – This mode results in lines that do not create areas and do not result in calculations.
    - **Shapes** – There are several shape drawing modes for drawing certain shapes seen in appraisal sketches.

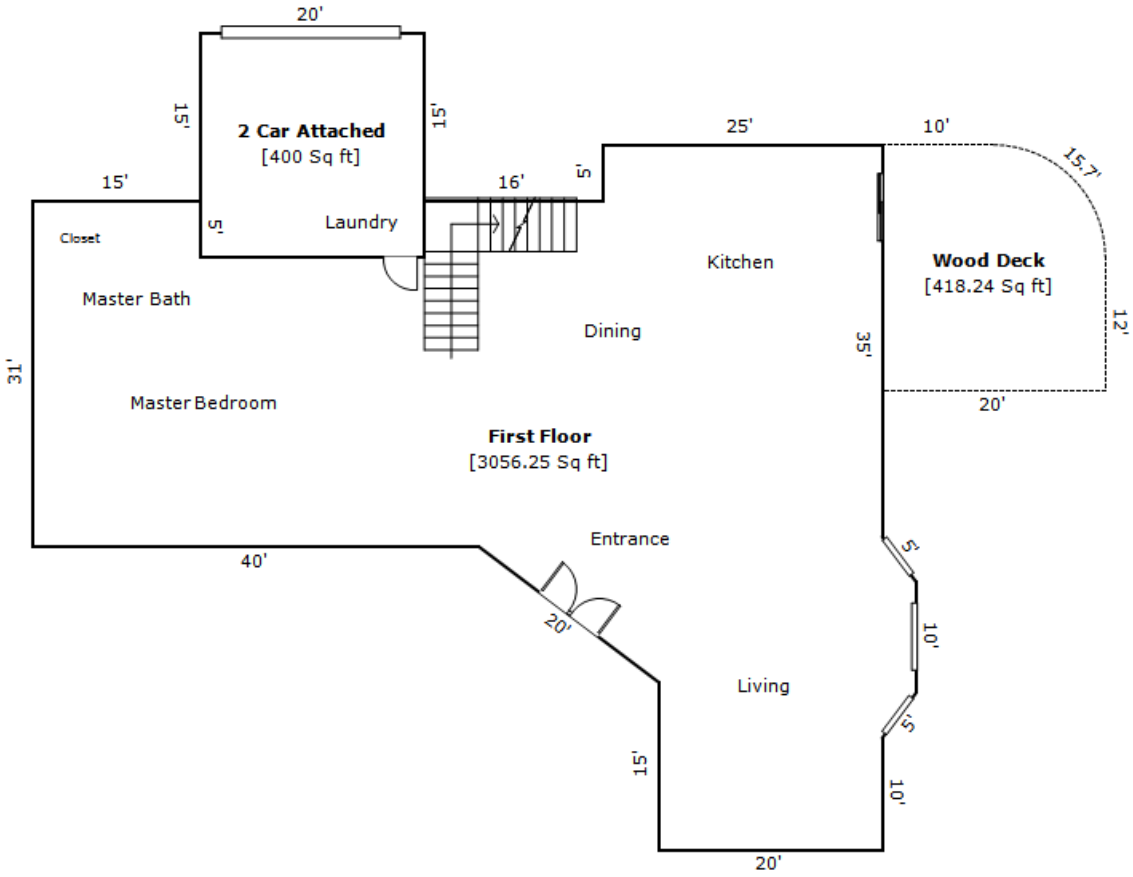


- **Modify Mode (M) –**  When you want to make a change to an existing on-screen item, you need to be in modify mode first.
- **Jump (J) –** The jump function moves the cursor to the nearest pop-point on the drawing.
- **Calculations (F6) –** Pressing F6 displays the sketch area calculation summary.

The sample sketch

ACCURACY PRODUCTIVITY

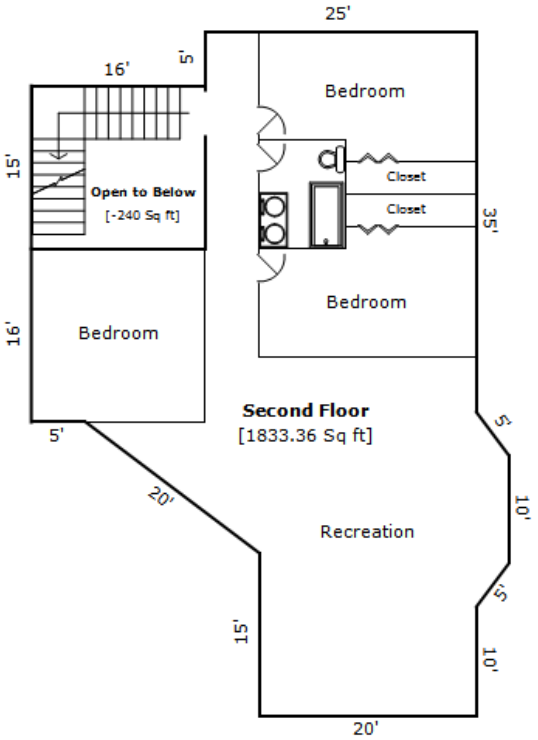
For reference, here's what the completed sketch will look like as we get started.



Basics

First, a few basic interface mechanisms you should know.

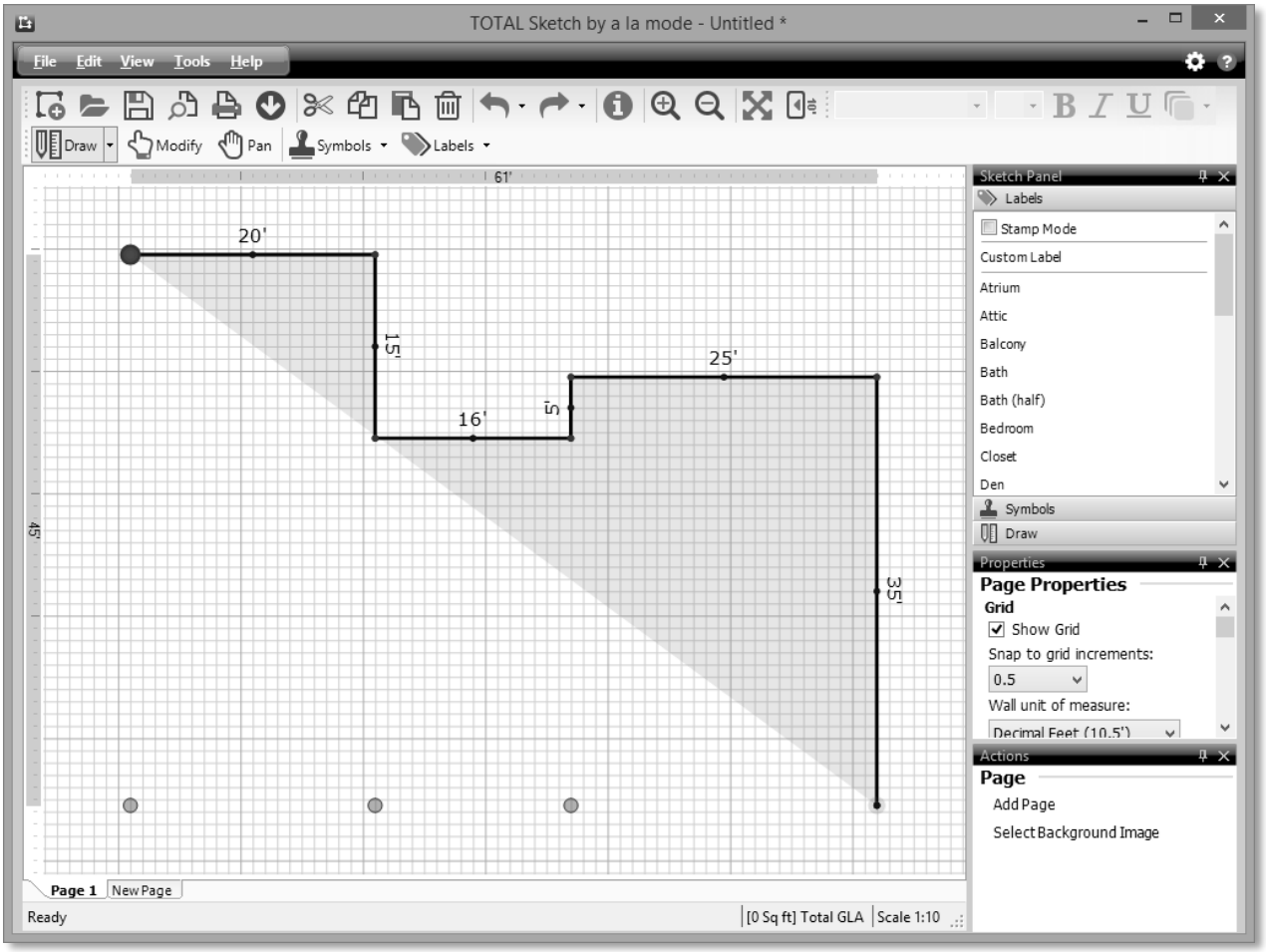
- Scale is set automatically by default in TOTAL Sketch.
- Rolling your mouse scroll wheel adjusts the scale on the fly.
- Pressing **Enter** toggles drawing mode vs. place cursor mode.
- Pressing **C** fits the drawing to the screen and adjust the scale automatically.
- Remember, if your specific drawing action produces unexpected results press **CTRL+Z** to undo.



To begin

Straight lines are the foundation of any sketch, and they're very simple to enter. The process is to begin drawing by clicking or pressing Enter on your keyboard, then entering a dimension with your number keys and a direction with one of the arrows. When the line looks like you want, press Enter to lock it in place.

For example: **20, right arrow, Enter**.

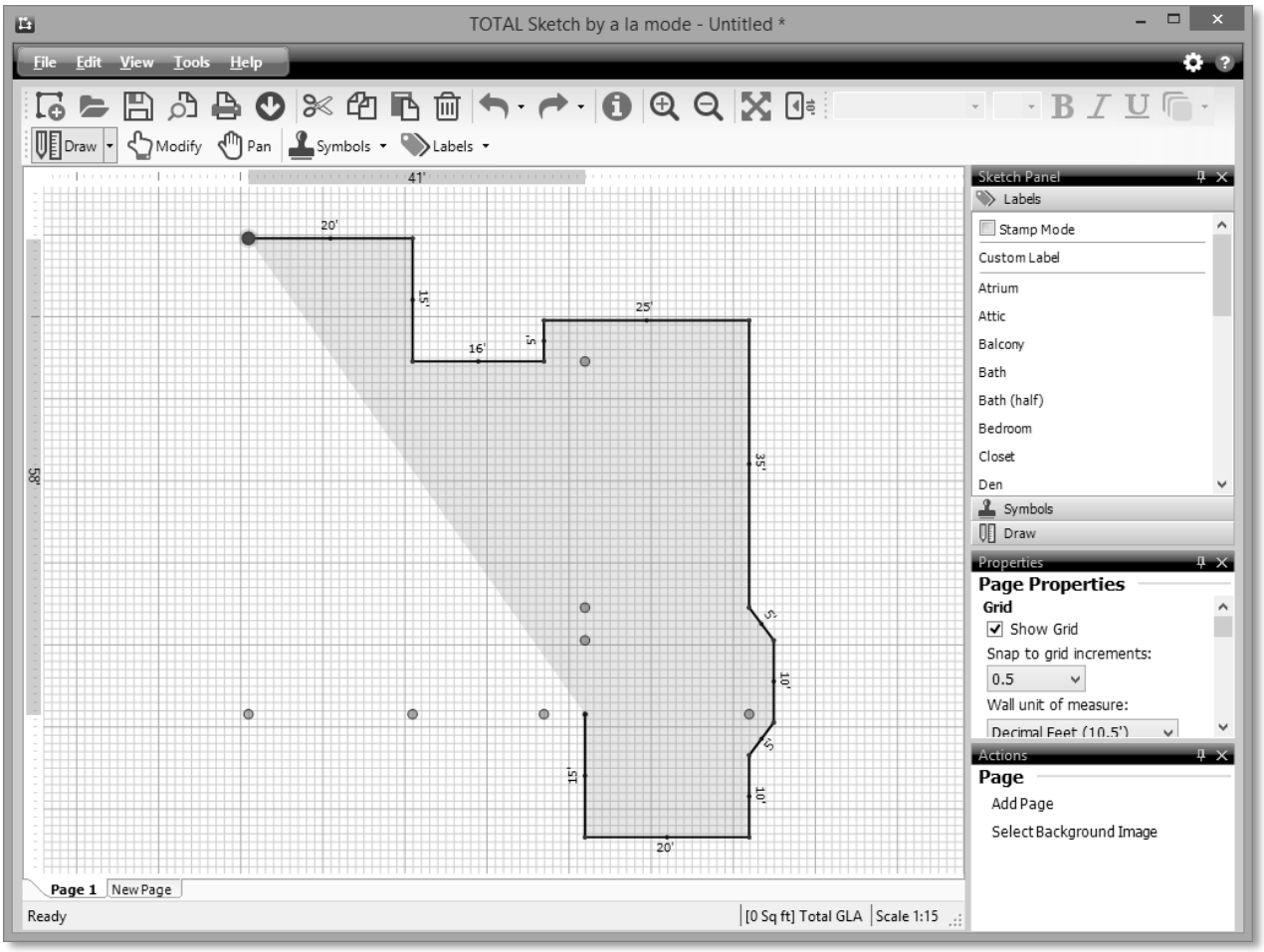


1. When TOTAL Sketch opens, hover your mouse where you wish to begin sketching. Then, press **Enter** to begin. You're in **Area line** drawing mode by default. You're ready to enter your first dimension.
2. Enter **20**, press **right arrow**, then press **Enter** to lock in place.
3. Enter **15**, press **down arrow**, then press **Enter** to lock in place.
4. Enter **16**, press **right arrow**, then press **Enter** to lock in place.
5. Enter **5**, press **up arrow**, then press **Enter** to lock in place.
6. Enter **25**, press **right arrow**, then press **Enter** to lock in place.
7. Enter **35**, press **down arrow**, then press **Enter** to lock in place.
8. Press **C** to auto-fit your drawing if necessary and see your entire sketch.

For the bay window

ACCURACY

Bay windows use rise and run and introduce a process that allows you to adjust lines before locking them in place by entering multiple measurements and/or directions. When a line is not locked in place, it shows as either green (horizontal), blue (vertical), or red (angled). Locked lines are black.



9. Enter **3**, press **right arrow**, do NOT press **Enter** to lock.
10. Enter **4**, press **down arrow**, then press **Enter** to lock in place.

The line should be angled.

11. Enter **10**, press **down arrow**, then press **Enter** to lock in place.
12. Zoom in if necessary.
13. Press **C** to auto-fit your drawing if needed.
14. Press **B** to complete your bay window automatically.

*Alternatively, enter 3 and press **left-arrow**, then 4 and **down-arrow**.*

15. Enter **10**, press **down arrow**, then press **Enter** to lock in place.
16. Enter **20**, press **left arrow**, then press **Enter** to lock in place.
17. Enter **15**, press **up arrow**, then press **Enter** to lock in place.

For the custom angle

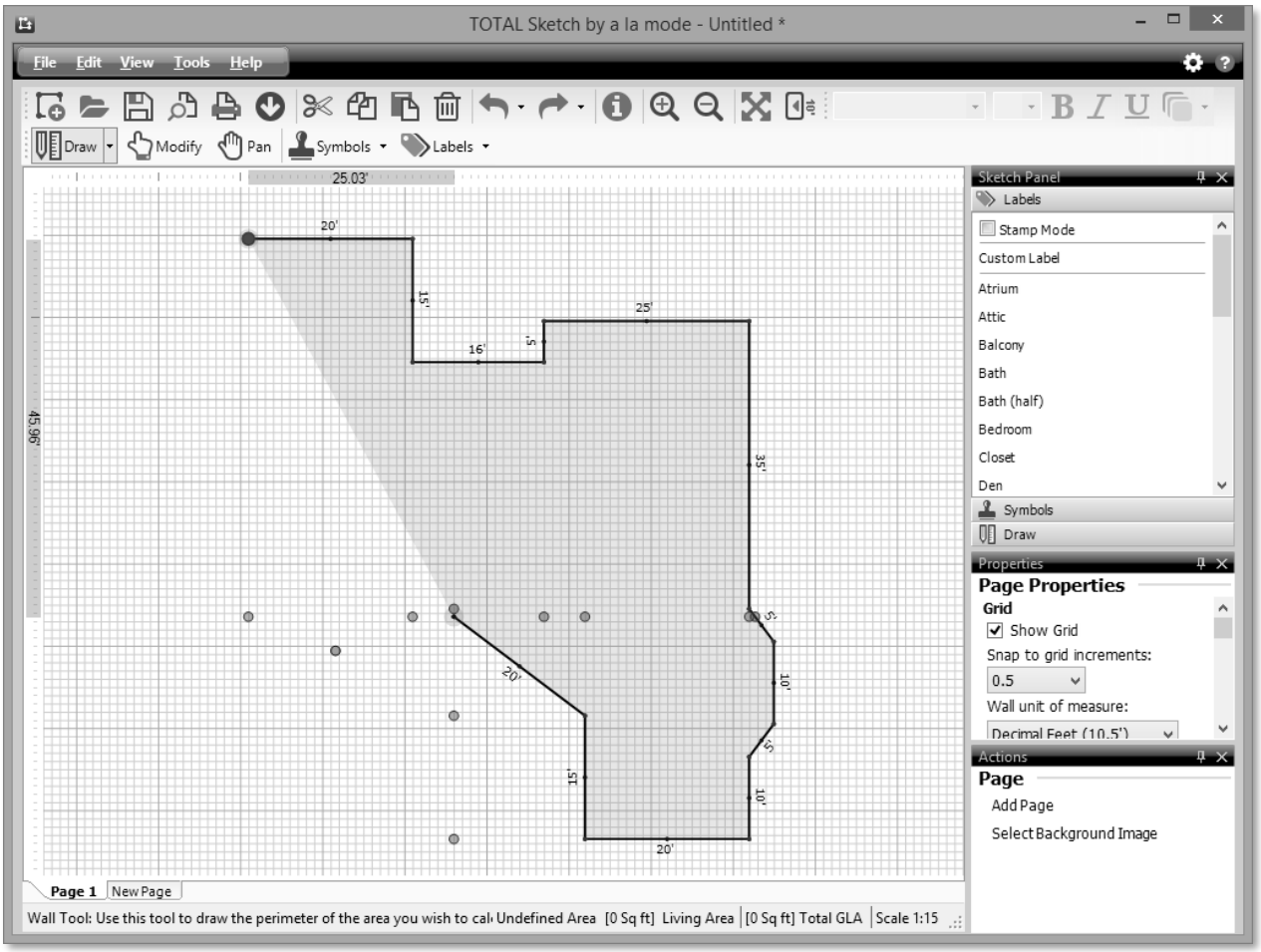
ACCURACY

Custom angles with long walls require that you measure the length and angle of the wall (using an angle measurement tool) while you're on site. Then, use that information to enter the line in TOTAL Sketch.

The basic formula for entering custom angles in TOTAL Sketch is:

Length of wall → **Direction** of turn (L or R) → **Angle** of deflection (in degrees)

So, for our example the appropriate sequence of entry would be **20**, **L**, **53**, **Enter**.

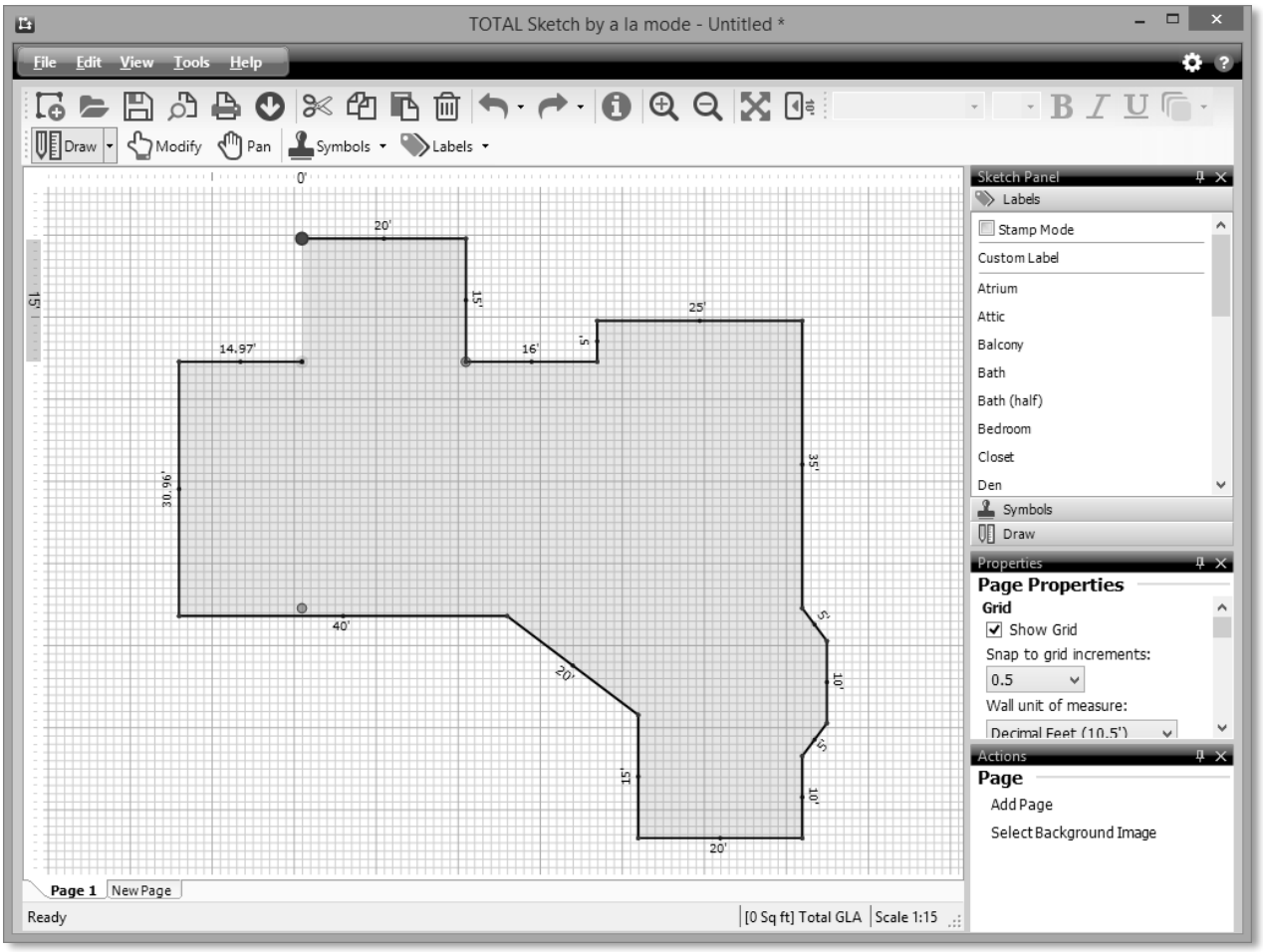


18. Enter **20.** Do NOT press Enter.
19. Press **L** (for a left-turning angle).
20. Enter **53** (the angle of deflection).
21. Press **Enter**.

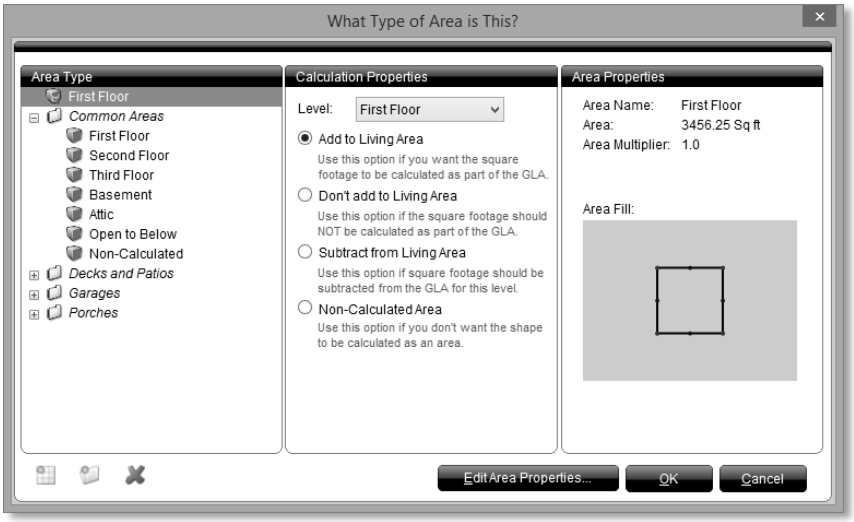
You can't assume that every angle on a property is 45deg. You need to know the exact angle measurement to ensure accurate calculations and faithfully reproduced property sketches. Use an angle tool available from Amazon (or your local hardware store) for best results.

Continue drawing

Pop points (the red dots you see as you draw) allow you to extend or create lines in your drawing by simply arrowing to them. They're useful for squaring sketches automatically in the field.



22. Enter **40**, press **left arrow**, then press **Enter** to lock in place.
23. Using **CTRL+up arrow**, pop up until your cursor is even with the 16ft wall (your 3rd line drawn). Press **Enter** to lock in place.
24. Using **CTRL+right arrow**, pop right until your cursor is at a point in line with your original point of beginning.
25. Press **A** to auto-close your area. The area type screen is displayed.
26. Verify that **First Floor** is indicated, then click **OK** to complete your first area.

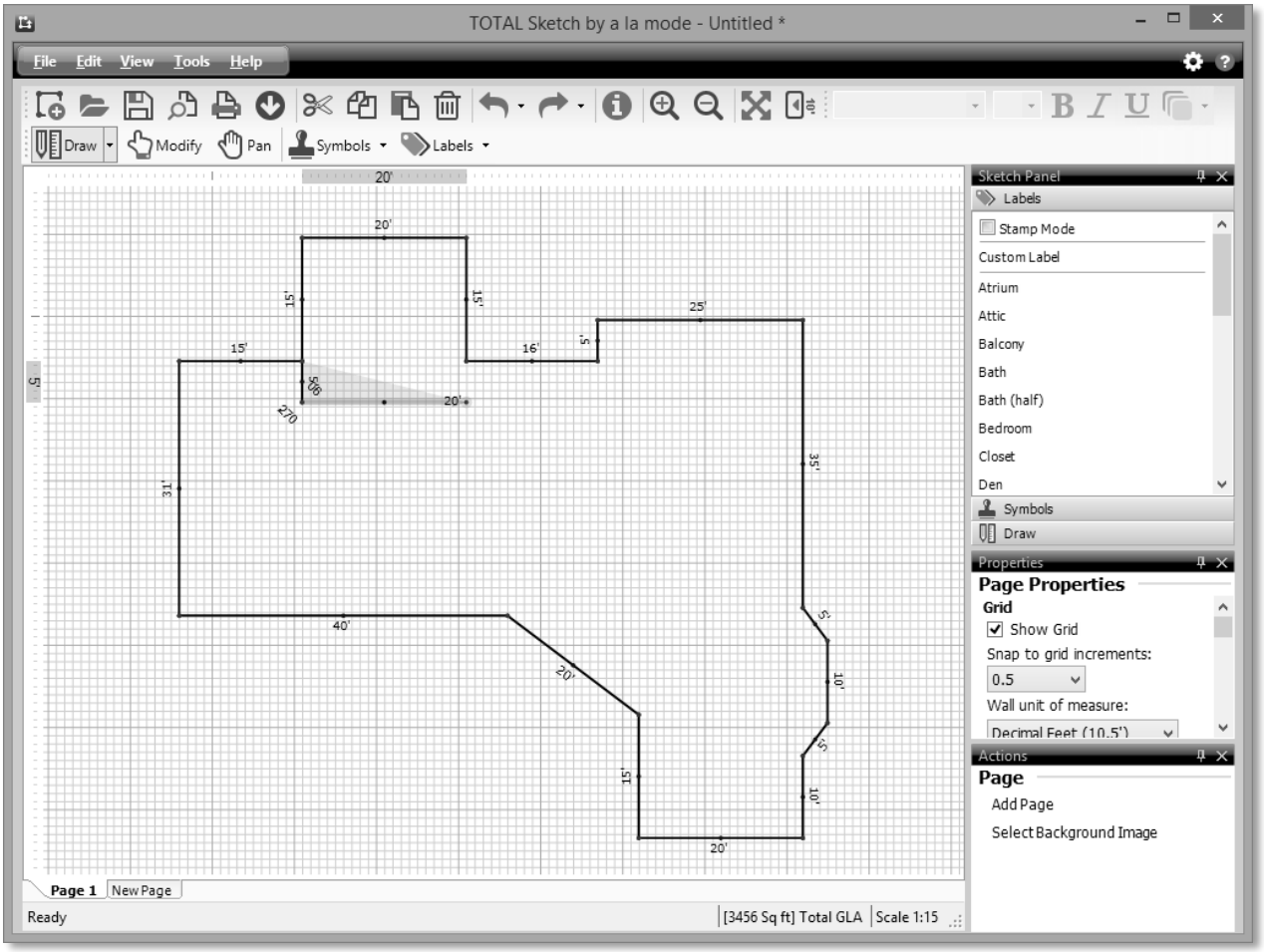


Cutting out the garage

ACCURACY

Your initial sketch of the property footprint includes the garage. This affects your overall square footage and needs to be adjusted accordingly. Once you've been inside the property and know the interior measurements, you can use this information to "cut out" the garage area from the living space.

This is accomplished using **Area** lines to draw the common (or shared) walls. Once you've done that, TOTAL Sketch automatically creates two separate areas, each with their own properties and calculations.



27. Place your cursor near the corner in the upper-left of your drawing where the two 15ft lines meet.
28. Press **J** on your keyboard to jump to that corner.
29. Press **Enter** to toggle drawing mode on. You should be in **Area** drawing mode.
30. Enter **5**, press **down arrow**, then press **Enter** to lock in place.
31. Using **CTRL+right arrow**, pop to the right until your garage is square, then press **Enter**. Then pop to the point where it meets the outside wall to complete the garage cutout.
32. Verify that **2 Car Attached** is selected, then click **OK**.

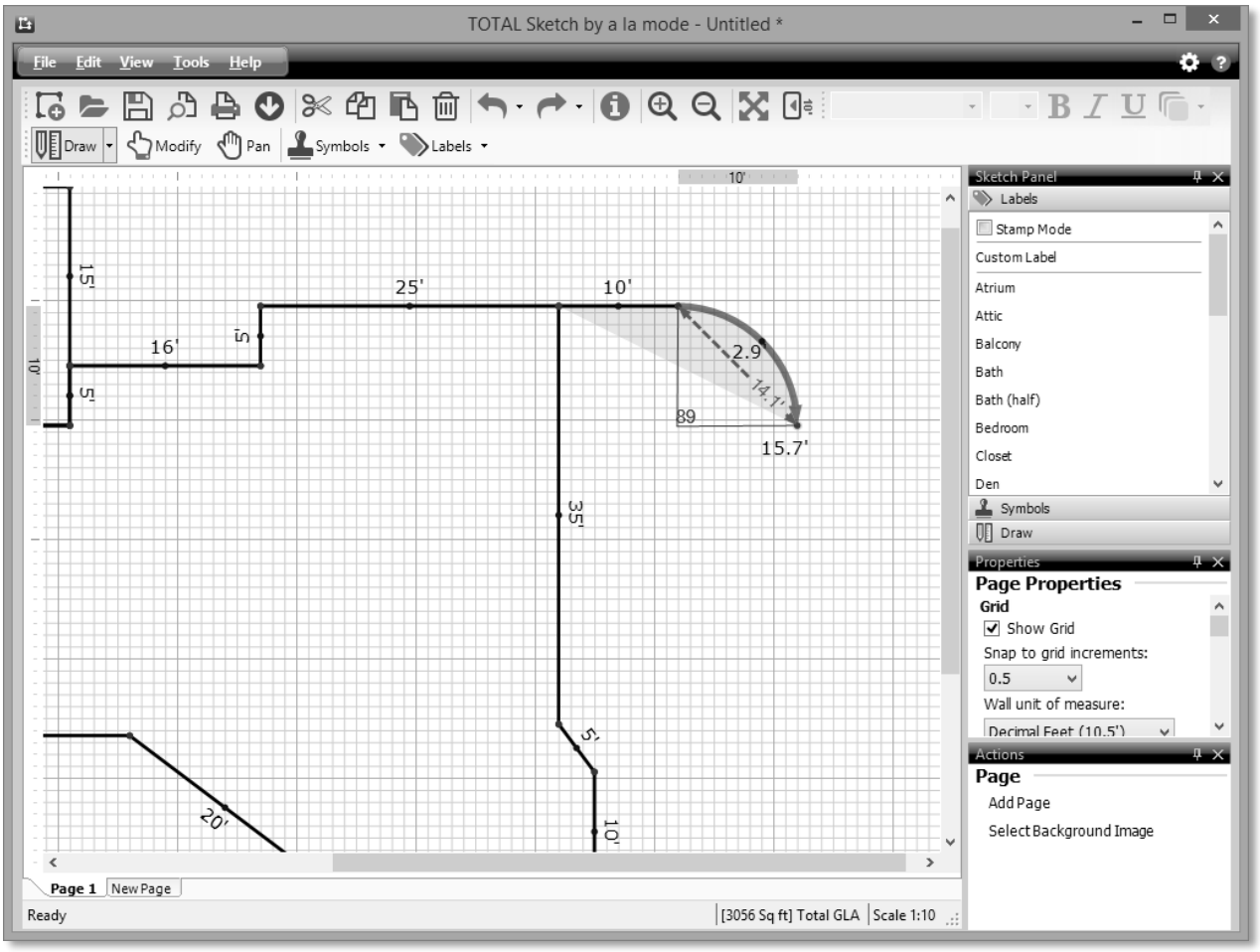
You'll use the same method later to handle "open to below" areas such as stairwells, atriums, etc…

Adding a wood deck or patio

ACCURACY

Before we can add the deck to the outside of the property, we need to position our cursor at the appropriate beginning point. We'll use our mouse and the **Jump** function to do this.

33. If necessary, **Pan** your drawing to see the upper-right of your first floor area.
34. Position your cursor near the corner.
35. Press **J** to jump precisely to the corner.
36. Press **Enter** to toggle drawing mode on. You should be in **Area** drawing mode.
37. Enter **10**, press **right arrow**, then **Enter** to lock in place.



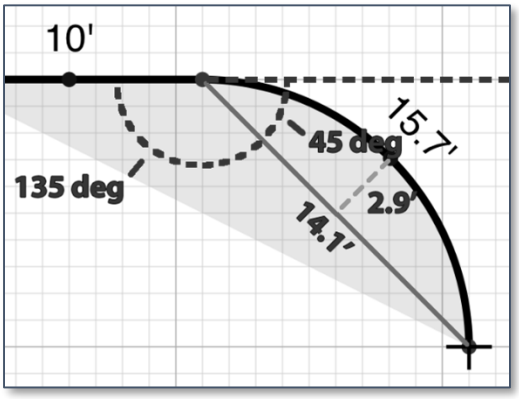
Drawing your curve

ACCURACY PRODUCTIVITY

Measuring and drawing curves is one of the biggest challenges most appraisers face in the field. But with an understanding of the software and what information you need, it's easy to do.

You need three pieces of information in order enter a curve in TOTAL Sketch:

- The chord length (in green on your screen).
- The arc height (in gray on your screen).
- The angle of the chord from your previous line.



With this in-hand, you can draw your curve. Our example uses a simple 45 degree angled chord at 14.1 feet long:

38. Enter **14.1**.
39. Press **Page Down** (for 45 degrees) but do NOT press Enter.

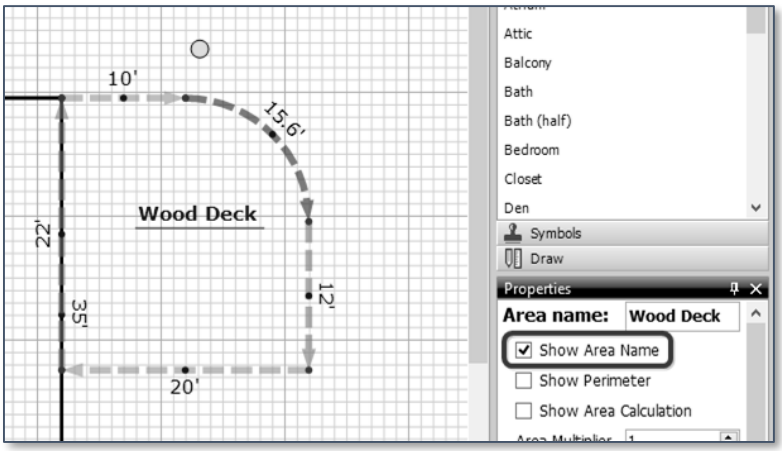
*If needed, use what you learned about entering custom angles to enter the chord. (See page **11**)*

40. Using the scroll wheel on your mouse, roll the arc height until it reads **2.9**.
41. Press **Enter** to lock in place.

Continue drawing

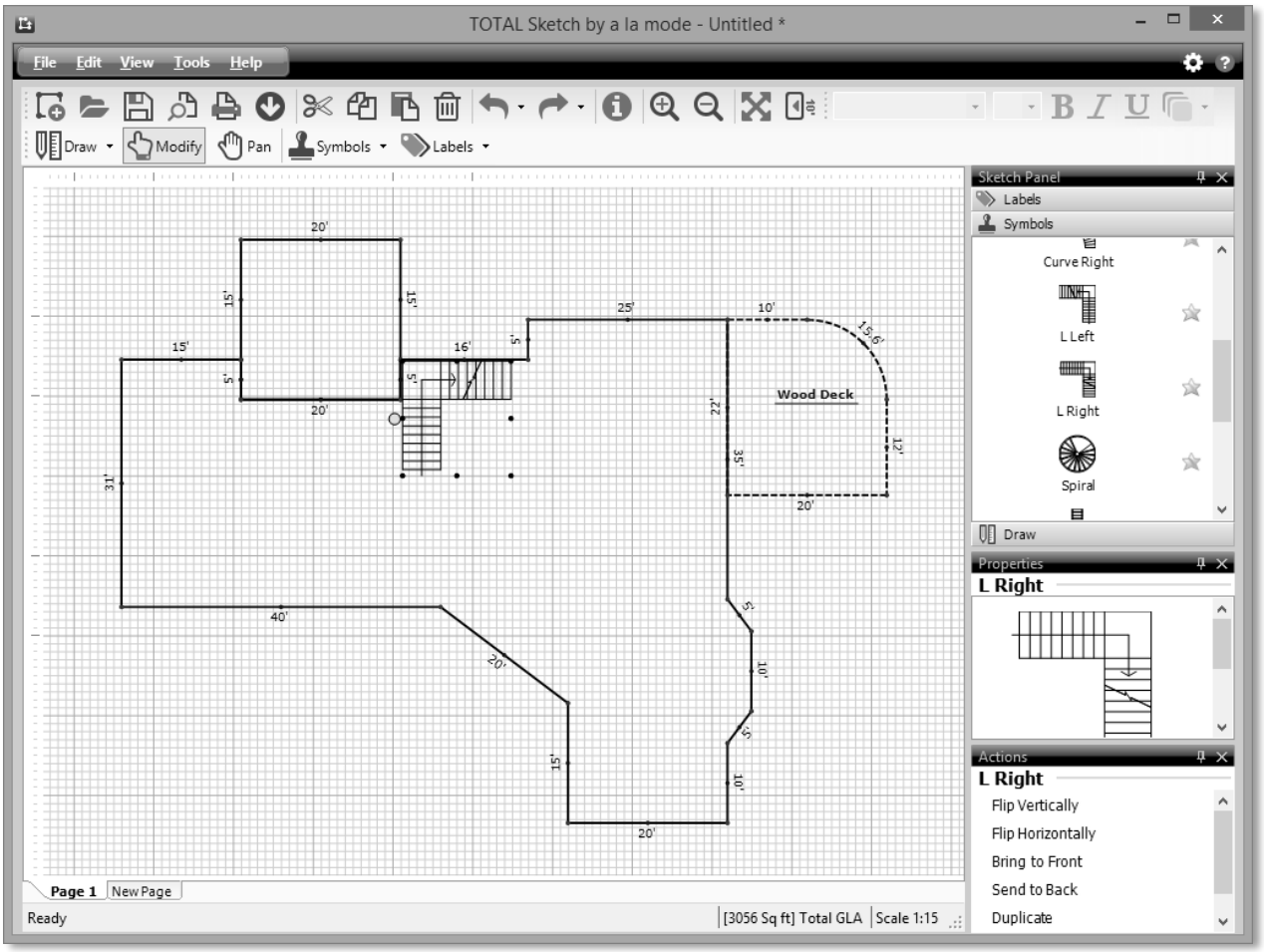
42. Enter **12**, press **down arrow**, then press **Enter** to lock in place.
43. Using **CTRL+left arrow**, pop left until you hit the outside wall of your area to complete the deck.
44. In the **Area Type** screen, select **Wood Deck**, then press **OK**.

*If you would like to display the name of an area in your sketch, click **Modify**, then click the **area**, then click **Show Area Name** in the **Properties** panel.*



Add your stairs

Symbols add detail and help show important features of a property. TOTAL Sketch includes several categories, including doors, staircases, bathroom fixtures, etc…

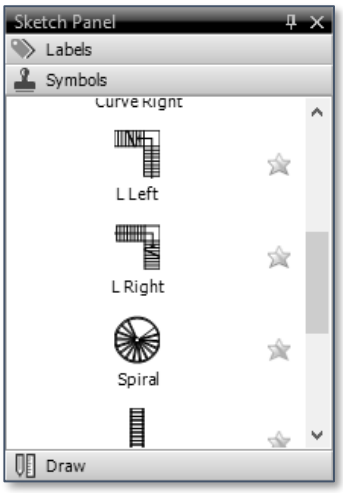


45. Expand the **Symbols** view in the Sketch Panel by clicking on it.
46. Select **Staircases** in the drop-down categories.
47. Scroll until you find the **L Right** stair symbol and click to select it.
48. Prior to clicking to place your icon, press **R** one or more times to rotate it into the correct orientation.
49. Click to place the stairs in your sketch.
50. With your staircase highlighted, drag the icon to generally place your stairs.

*With a symbol selected in **Modify** mode, you may use your arrow keys for finite placements of your stairs. Holding the **Shift** key at the same time as using your arrows will result in smaller increments of movement.*

51. If necessary, adjust the size of your symbol using the adjustment handles or the size fields located in the **Properties** panel.
52. Click off the symbol to lock it in place.

In addition, you can create a list of favorite symbols that you use frequently just by clicking on the star icon next to them in your list. Once a symbol has been marked as a favorite, you'll find it in the top category called **Favorites**.

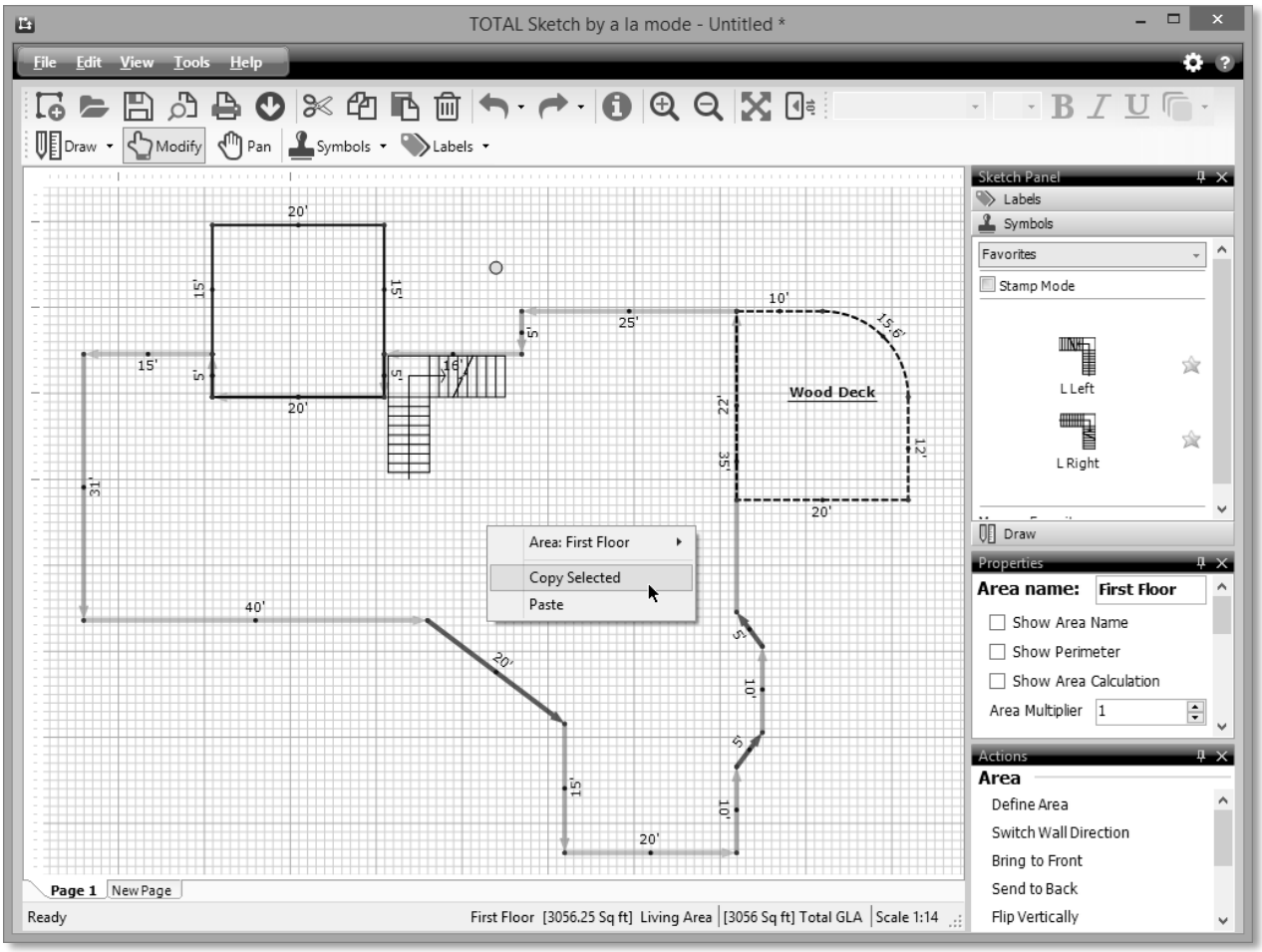


Symbols you have marked as favorites show a yellow star. When you want to remove a symbol from favorites, just click the yellow start to deselect it.

Copying the first floor as a second floor

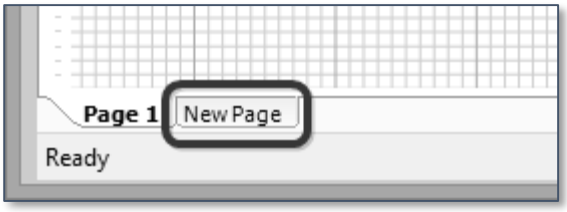
In many cases, especially with multi-story properties that have shared walls on multiple floors, reusing a previously drawn area saves you time and help to increase accuracy in your sketch.

53. Press **C** to auto-fit your drawing to the screen.
54. Click **Modify** to enter Modify mode
55. Click inside your **First Floor** area to select it.
56. Press **CTRL+C** or right-click and select **Copy Selected** to copy the area to your PC's clipboard.



Creating a second page

PROFESSIONALISM PRODUCTIVITY

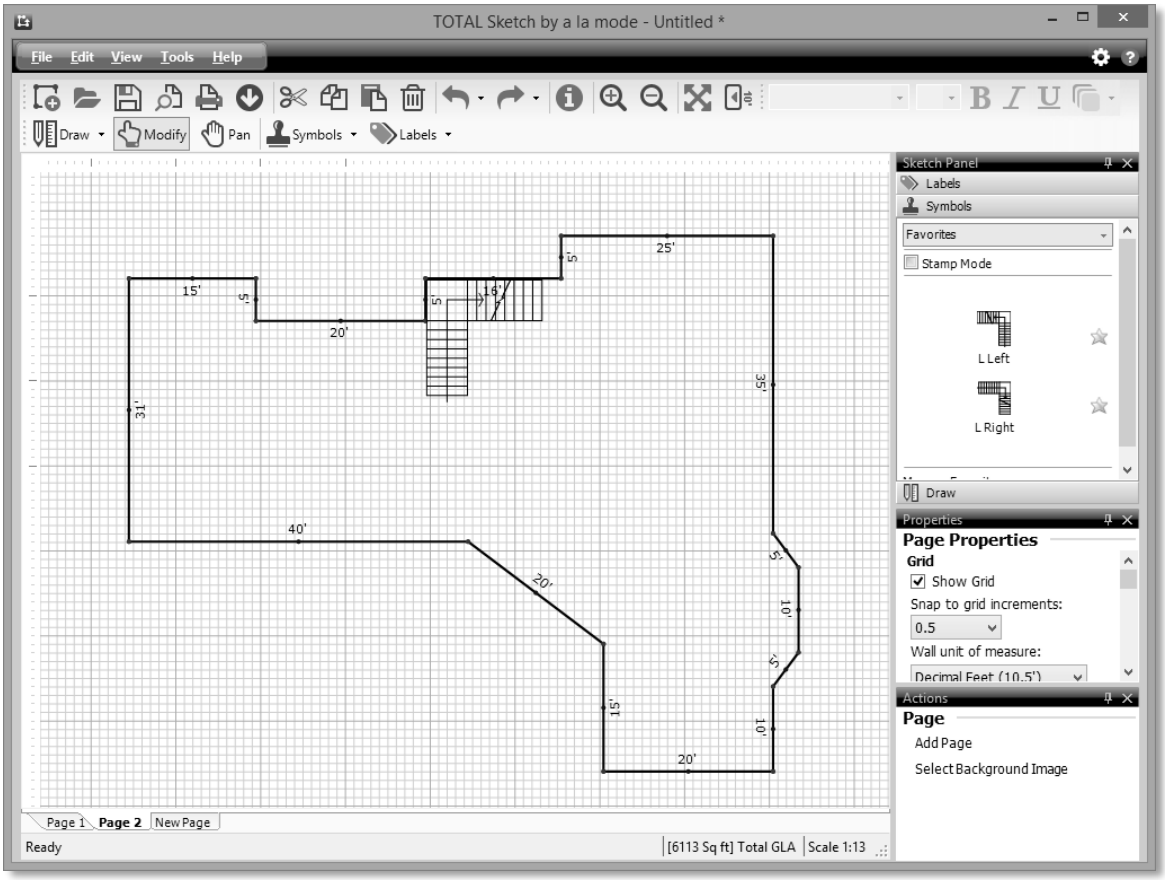


Pages allow you to organize sketches that contain many areas, such as multiple floors or properties with additional buildings, so that the scale of the drawing and detail are set appropriately. Placing too many areas onto a single page results in final sketches that are difficult to see detail because each area is very small on the page.

57. Click **New Page** in the lower-left corner of your TOTAL Sketch window.
58. A second page is created automatically and you are automatically taken to it.
59. Paste your copied area using **CTRL+V** or by right-clicking any blank space and choosing **Paste**.

The area is automatically pasted as First Floor based on the properties of the area you copied. You will need to adjust this to be correct.

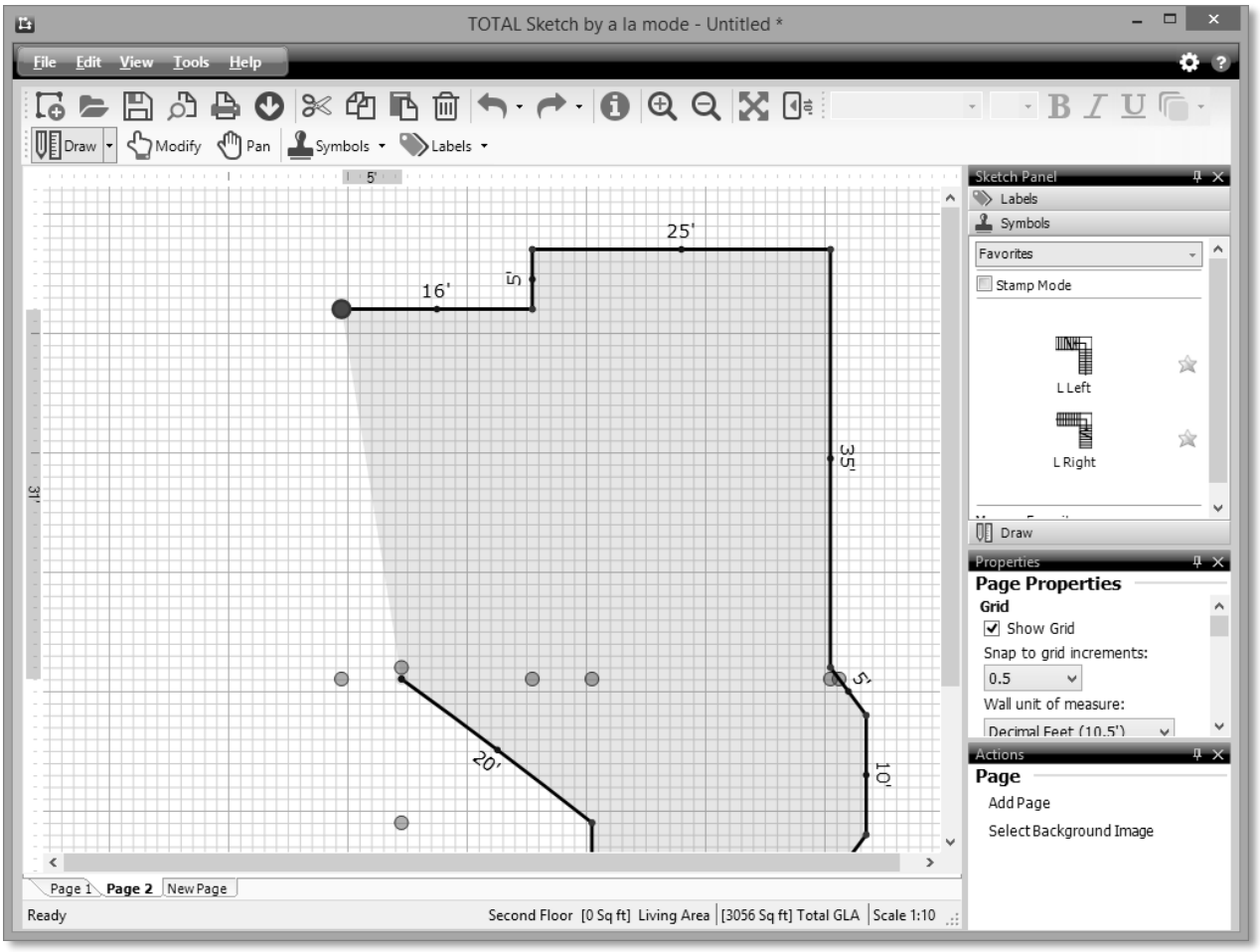
60. With the area selected, click **Define Area** in the Actions panel.
61. Select **Second Floor**, then click **OK**.
62. Click off the area to de-select it.
63. Press **C** to auto-fit your sketch to the screen.



Re-opening an existing area

ACCURACY

Making changes to an existing area requires you to re-open that area. If you make edits to walls in your drawing without first re-opening the affected area, your area attempts to adjust automatically to accommodate. By re-opening the area, any other lines in the same area can adjust freely without changing their length or direction.



We need to remove part of the area we cloned from first to second floor:

64. First, delete the staircase symbol by selecting it in **Modify** mode and pressing **Delete**.
65. Next, still in **Modify** mode, click the bottom of the 5ft wall next to where you staircase was.

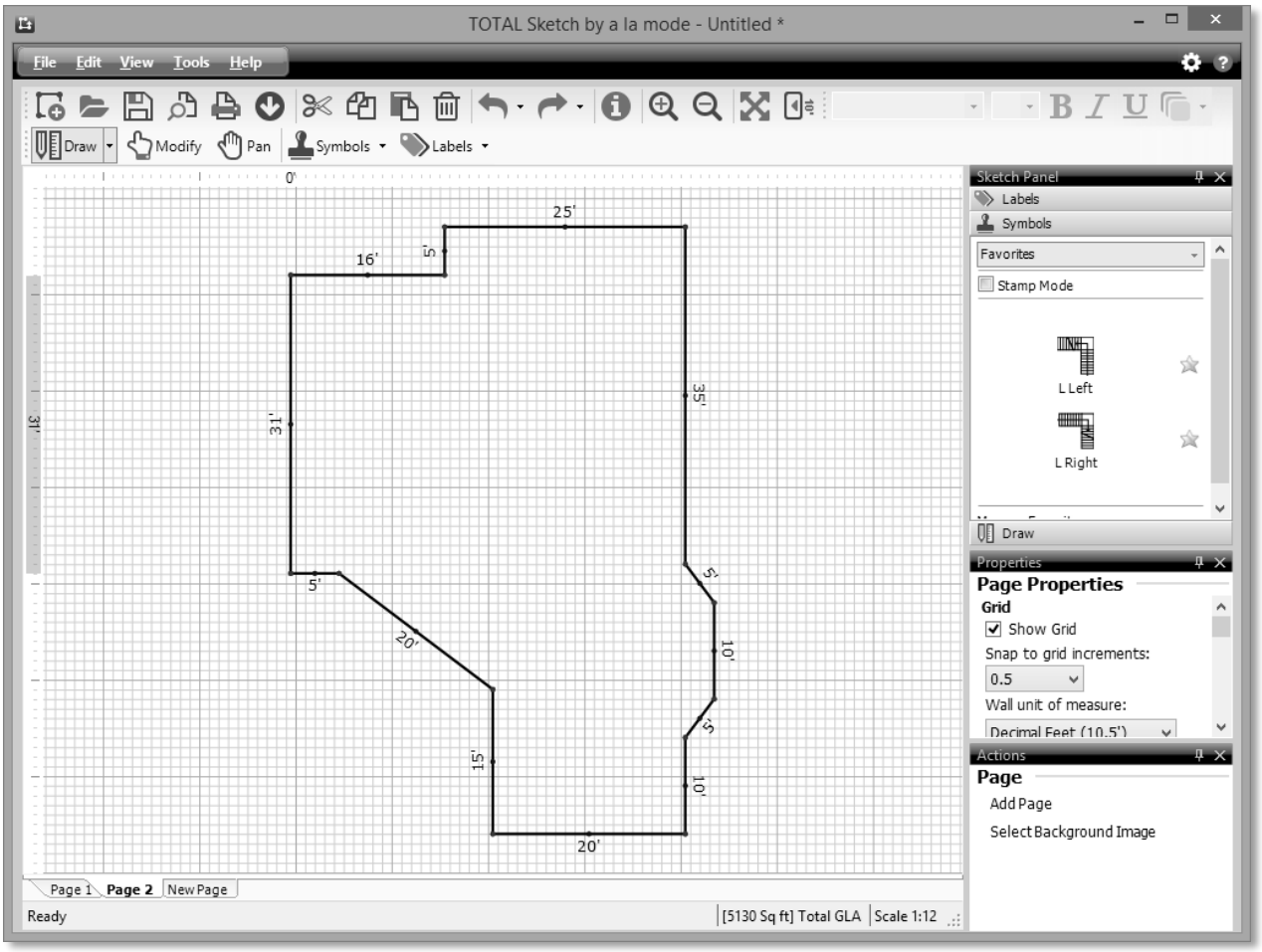
*The arrow should be pointing **away** from which direction you wish to delete in. If it's facing **towards** your delete route, click the other end of the line to reverse it.*

66. Press the **Delete** button to remove the 5ft line.
67. Press the **Delete** button 5 more times to remove the rest of the left half of the sketch, until you get to your 20ft angled line.

Re-closing the second floor

ACCURACY

In order to ensure your calculations are correct, we need to re-close the second floor after modifying it.

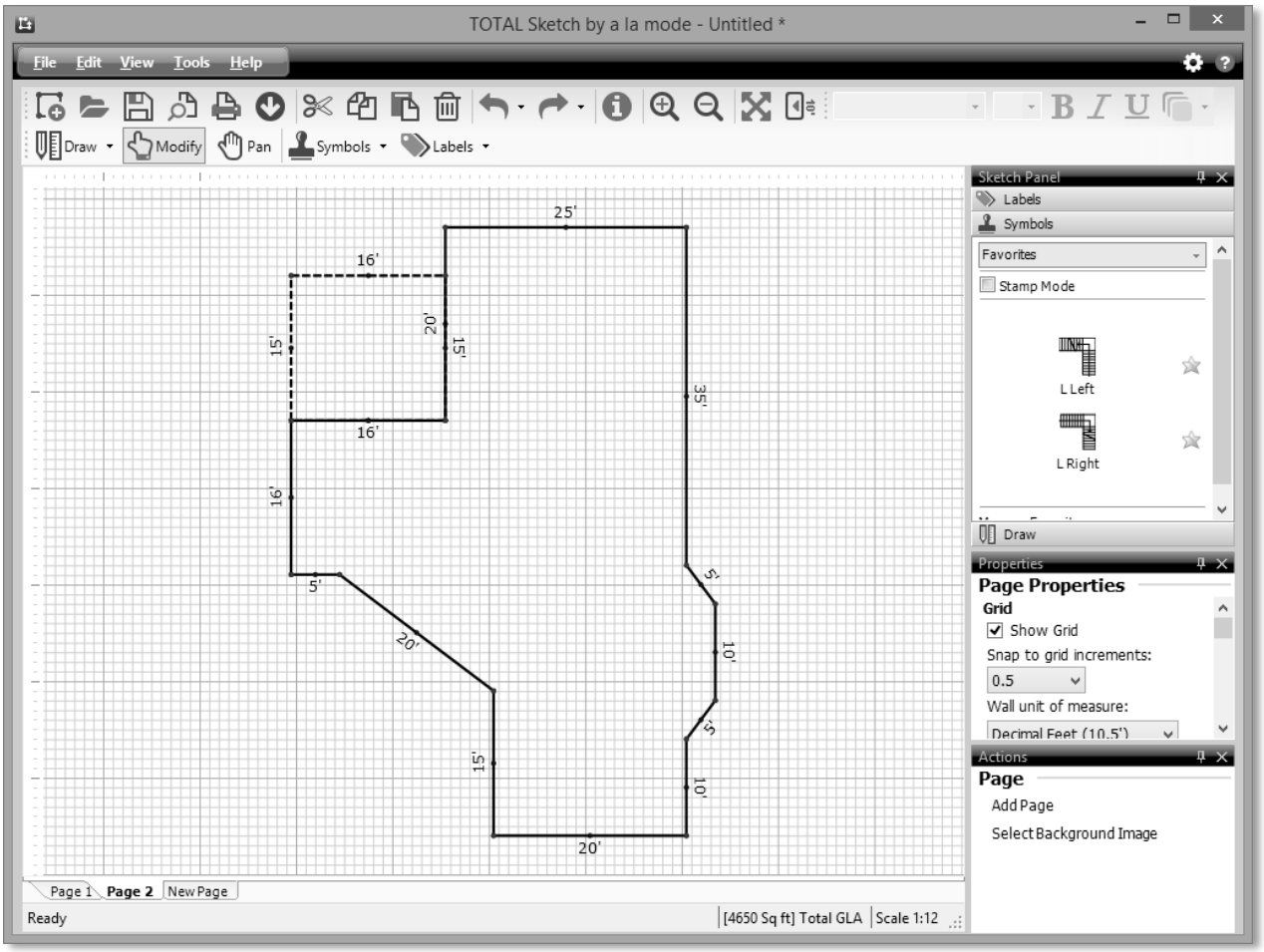


68. Click **Draw**. You should be in **Area** mode.
69. Hover your mouse near the end of your 20ft angled line. Press **J** to jump precisely onto that point.
70. Press **Enter** to toggle drawing mode on.
71. Using **CTRL+left arrow**, pop to the left until you are in-line with the top left corner of the area. You should be at a point even with the left end of your 16ft line. Press **Enter** to lock your line.
72. Press **A** to re-close the area.

Open-to-below area

ACCURACY

In many cases, you need to adjust living area down due to negative spaces in a property. Examples include stairwells, an atrium, or the edges around rooms that have heavily slanted roofs.

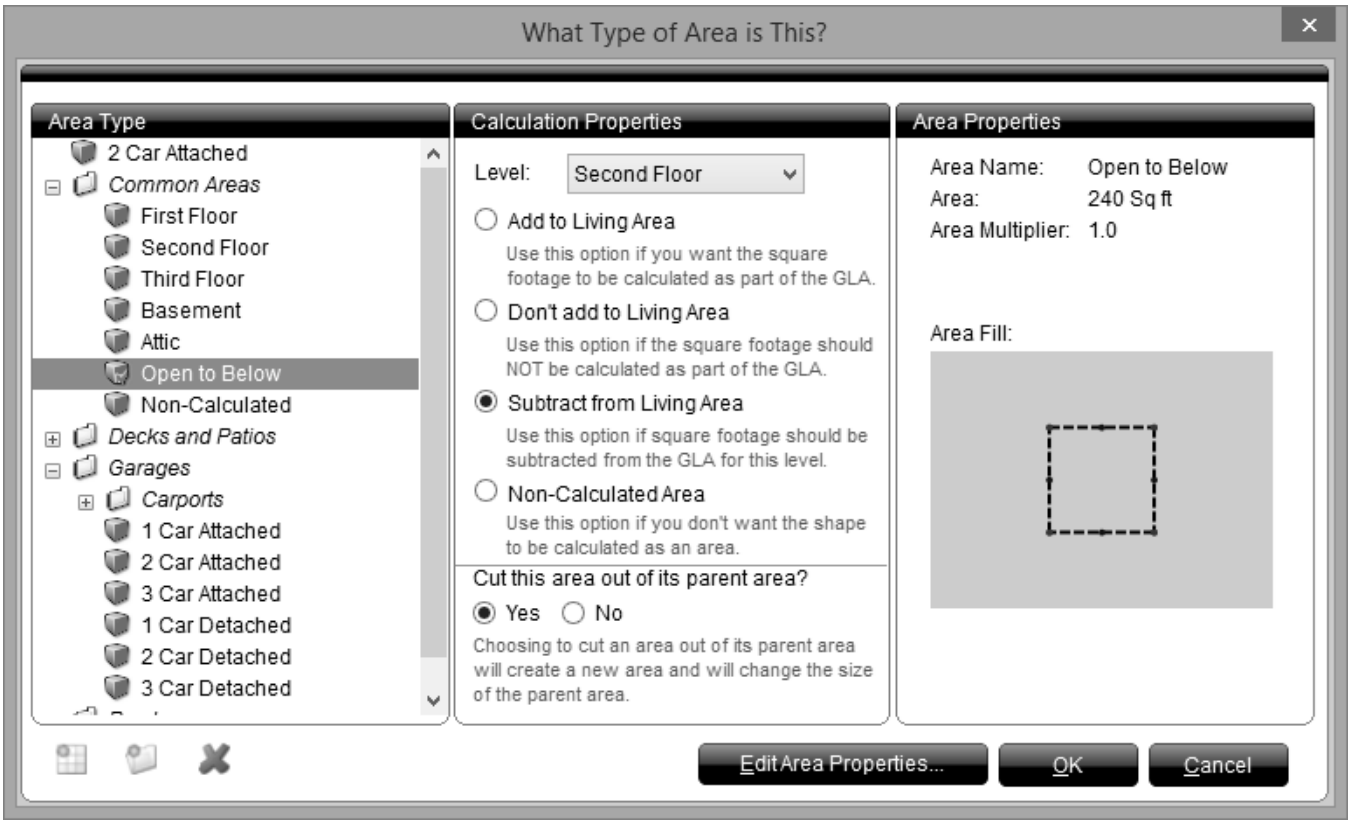


73. Click **Draw**. Ensure you are in **Area** mode.
74. **Hover** your mouse near the point **where 16ft meets 5ft towards** the upper-left of your area. Then, press **J** to jump precisely onto that point.
75. Press **Enter** to toggle drawing mode on.
76. Enter **15**, press **down-arrow**, then press **Enter** to lock in place.
77. Using **CTRL+left arrow**, pop to the outer wall of your drawing, then press **Enter** to lock in place.
78. Select **Open to Below** from the **Common Areas** category in the **Area Type** screen.
79. Click **OK**.

Open-to-below area (Cont.)

You can see on the **Area Type** screen how you can control whether an area's calculations are added to or subtracted from the total living space.

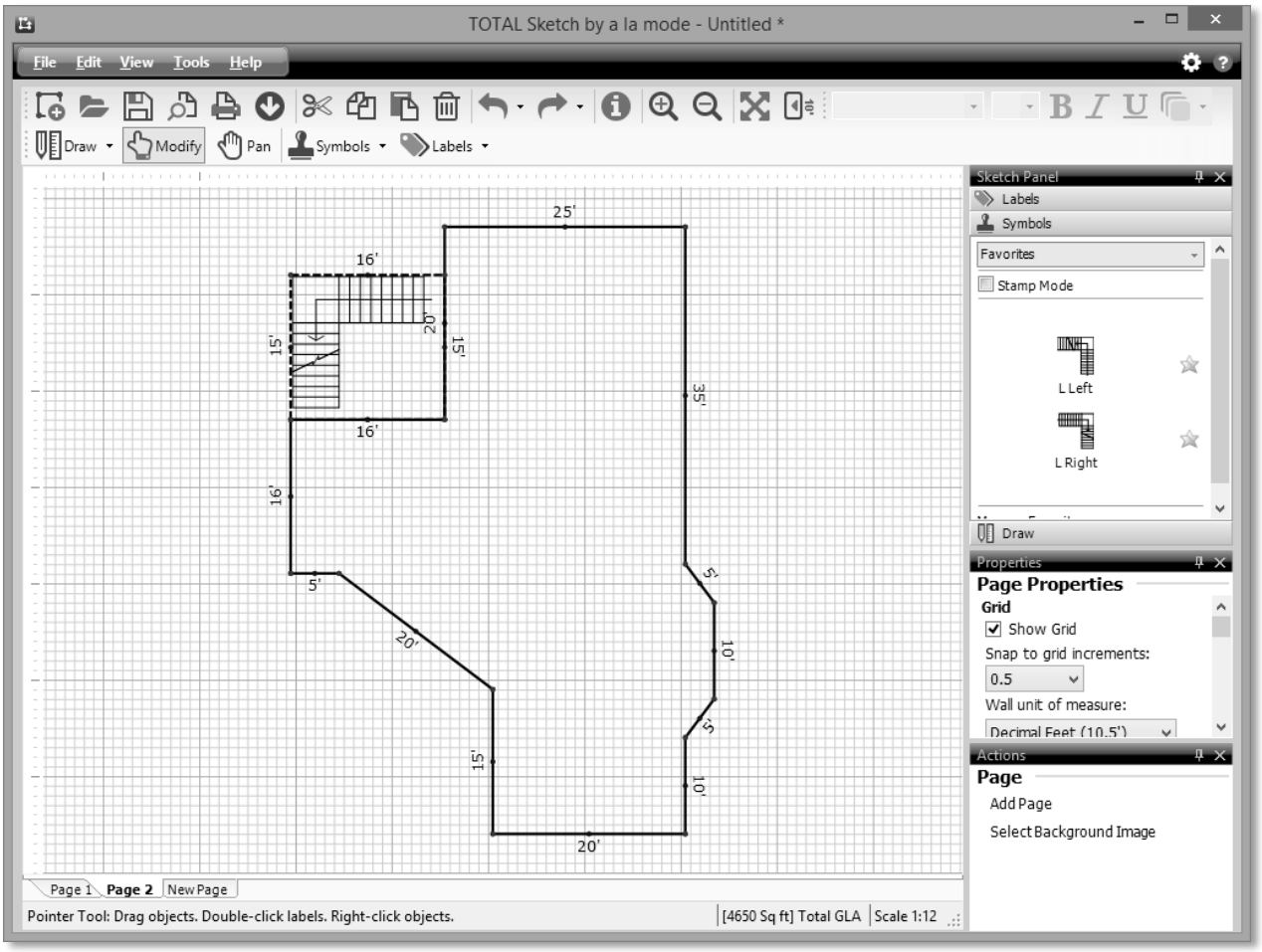
- **Add to Living Area** – Calculations are positive, and added to the overall GLA.
- **Don't add to Living Area** – Calculations are positive, but not added to the overall GLA. If you are cutting an area out of a larger area (such as a garage from a first floor), the parent area's square footage is adjusted automatically.
- **Subtract From Living Area** – Calculations are negative, and are subtracted from the overall GLA and any applicable parent area.
- **Non-Calculated Area** – The area is not calculated.



Moving labels or other items

80. In **Modify** mode, click-and-hold to select the **Open to Below** area label or another selected item.
81. Using your mouse, **drag** to position your label or other selected item.
82. Deselect your selected item by clicking any open space in your drawing.

Adding stairs to your second floor



83. **Expand** the **Symbols** view in the Sketch Panel by clicking on it.
84. Select **Staircases** in the drop-down for category.
85. Scroll until you find the **L Left** stair symbol and click to select it.
86. Prior to clicking to place your icon, press **R** one or more times to rotate it into the correct orientation.
87. Click to place the stairs in your sketch.
88. With your staircase highlighted, drag the icon to generally place your stairs.

*With a symbol selected in **Modify** mode, you may use your arrow keys for finite placements of your stairs. Holding the **Shift** key at the same time as using your arrows will result in smaller increments of movement.*

89. If desired, adjust the size of your symbol using the adjustment handles or the size fields located in the **Properties** panel.
90. Click off the symbol to lock it in place.

Adding room labels

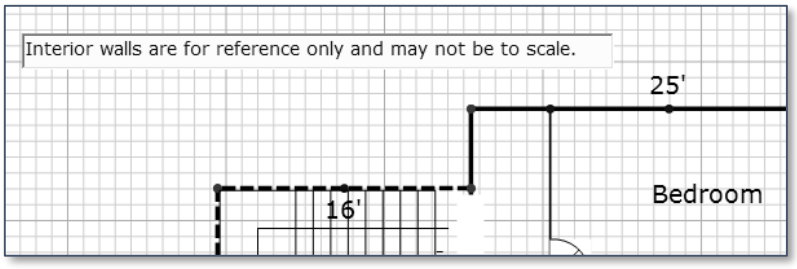
Placing labels on your sketch helps your reader to know where each room is relative to the others in your subject property.

91. Expand the **Labels** view in the **Sketch** panel by clicking on it.
92. Choose a label from the list by clicking on it.
93. Click to place your label on your sketch.
94. Repeat steps 92/94 to place additional labels on the drawing. (See example for placement)

*You can "stamp" labels by checking the **Stamp Mode** checkbox in the **Label** panel. Then, click repeatedly where you want each label. Press **Escape** when you've stamped all the labels you need.*

Add a free-form text label to your sketch

If you need to add notes or a disclaimer to your sketch, create a custom text label using the freeform text tool.



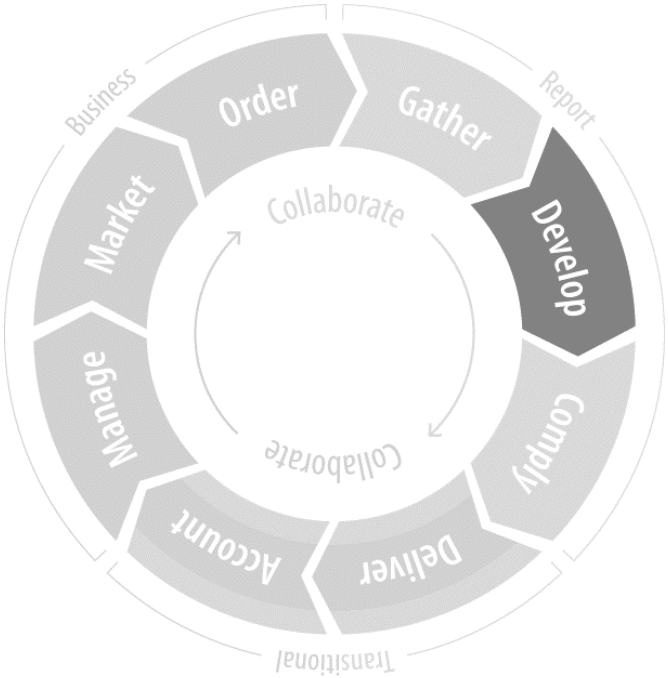
95. Click **Custom Label** from the **Label** panel.
96. Click where you want your custom label on your sketch.
97. Type the text of your custom label, then press **Enter.**

Exiting TOTAL Sketch

When you've completed your sketch, you'll need to save it as you exit. The image and resulting calculations are transferred back to TOTAL automatically and entered into the report forms where appropriate.

98. Click **File**, then choose **Exit.**
99. When prompted to save, choose **Yes.**

Advanced Sketching Techniques



Editing areas

EFFICIENCY

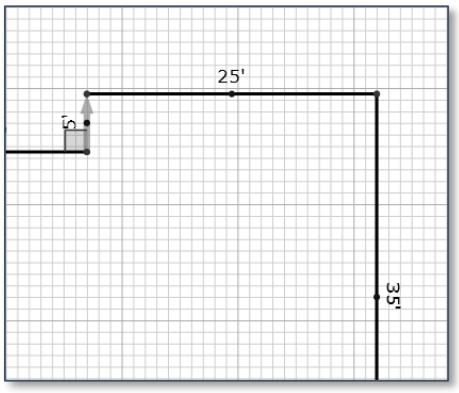
In our Essentials session, we covered some basic editing when we removed part of the second floor using a simple "open and delete" method. It was quick and easy.

But there are times where you need to make edits or corrections rather than deleting entire walls or areas, and knowing how TOTAL Sketch deals with line direction and editing makes that process much simpler. No one wants to have to redo areas from scratch just to make a few simple corrections.

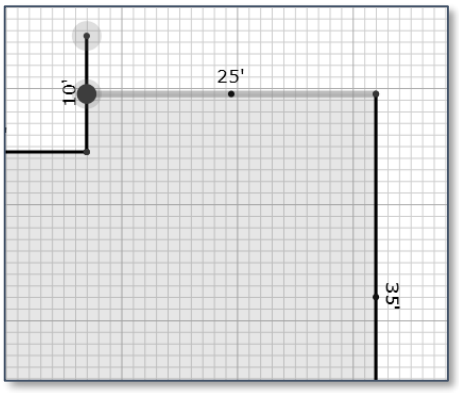
Closed areas

ACCURACY

TOTAL Sketch lets you make edits on existing walls in a closed area and re-opens the area for you automatically based on your adjustments. Once an area is open, any additional walls attached to the line you are editing are moved automatically and remain attached.



Before Editing



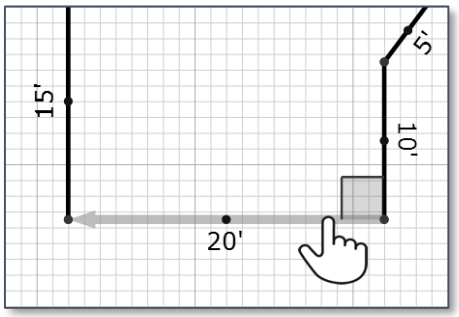
After Editing

This means that you need to make appropriate adjustments to additional lines in order to keep your sketch "square" as you modify your sketch.

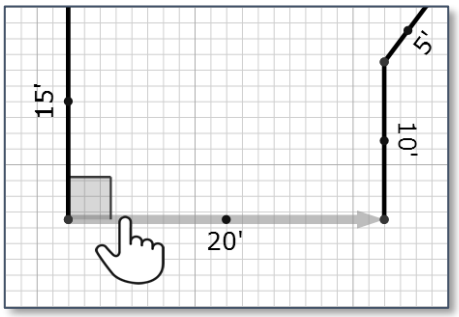
Wall direction

PRODUCTIVITY

In order to be able to consistently predict how your edits affect your sketch, it's critical to understand how wall direction in your sketch works. When you are in **Modify** mode and click to select a line, the line direction is set based on which end of the line you clicked.

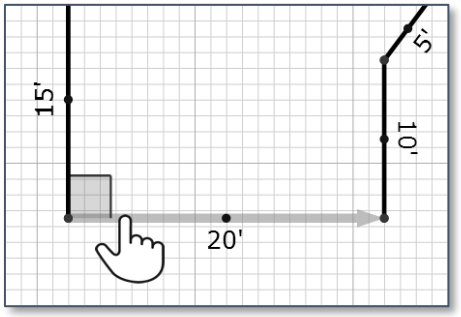


Line direction: Clockwise

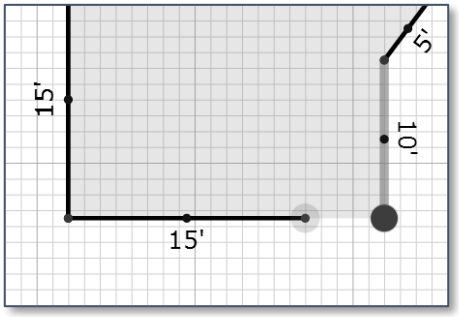


Line direction: Counter-clockwise

The direction of your line is important because as you make changes to a line's length, it grows or shrinks according to the direction of the arrow. Any attached walls in an open area are adjusted accordingly.



Line selected



Notice it shrinks from the end that showed the arrow.

Adjusting walls without deleting them

EFFICIENCY

Many people incorrectly assume that in order to adjust a wall, they need to delete one or more other walls first in order to "get to" the line they need to adjust. But you can adjust any wall, at any time, simply by selecting the wall in **Modify** mode, entering a new dimension length, and then pressing **Enter.**

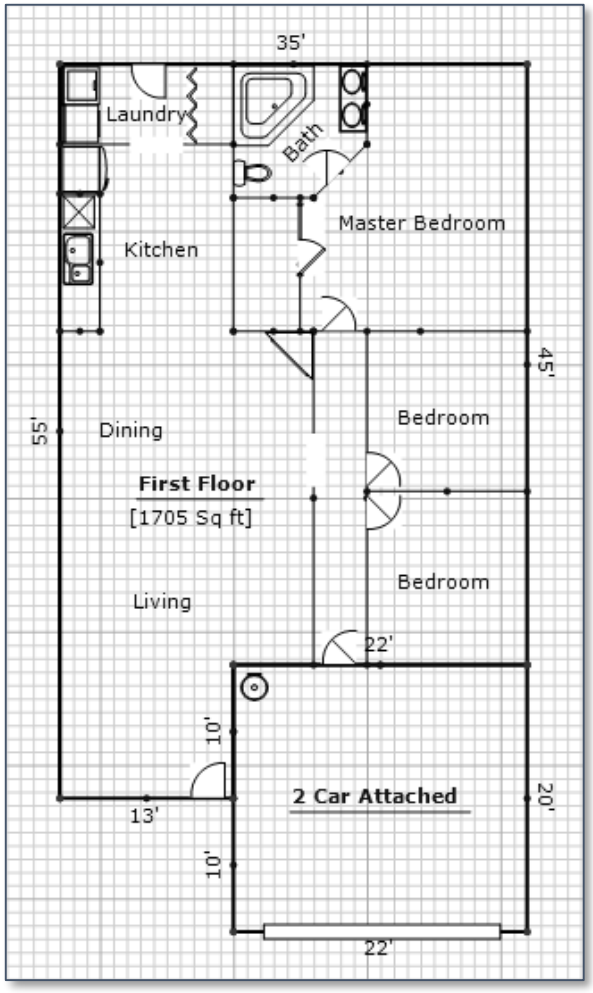
Task: Adjust a line length in your sketch

1. Click **Modify** in the toolbar.
2. Click to select the line you wish to adjust. Verify that the arrow is on the end of the line you wish to lengthen or shorten from.
3. Using the number keys or numeric keypad, enter a new dimension, then press **Enter.**

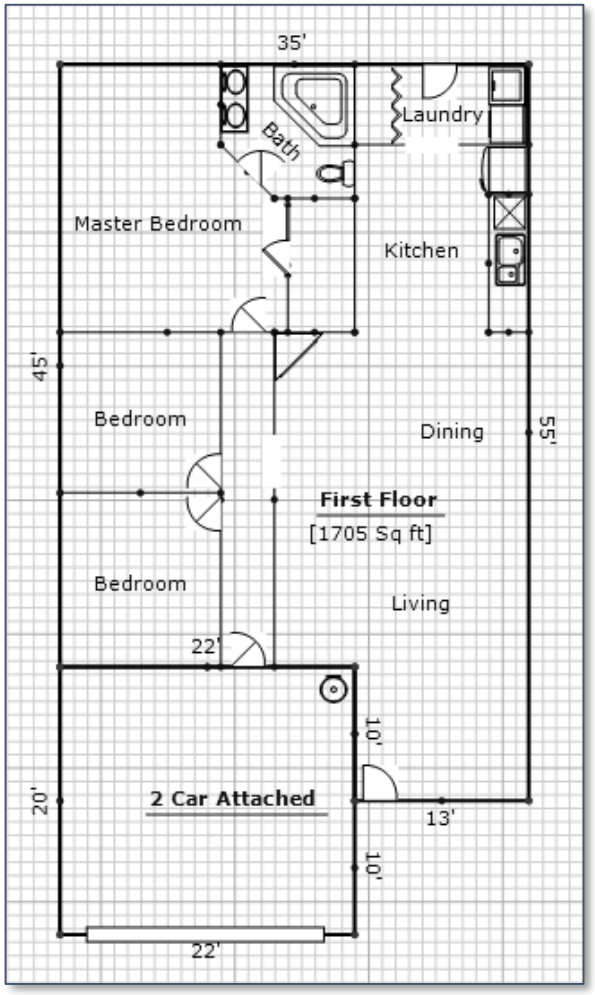
After your line adjusts, take a moment to examine the rest of your sketch. Are there other lines that need to be adjusted now?

Flipping areas

Ever appraised a duplex? Tract home neighborhoods where the builder simply took a floorplan and built the same house in a mirrored configuration? There are lots of cases where you could potentially re-use a previous sketch you did if you could only quickly and easily flip it.

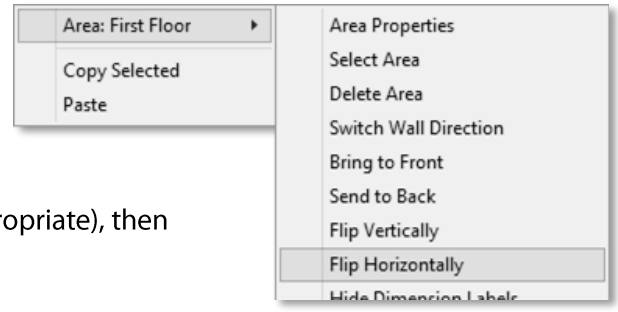


Original sketch



Flipped sketch

Task: Flip a sketch



1. Draw or reopen a sketch.
2. Click **Modify**, then **right-click an area** (such as First Floor) you wish to flip.
3. Choose **Area: First Floor** (or other area name as appropriate), then choose **Flip Horizontally.**

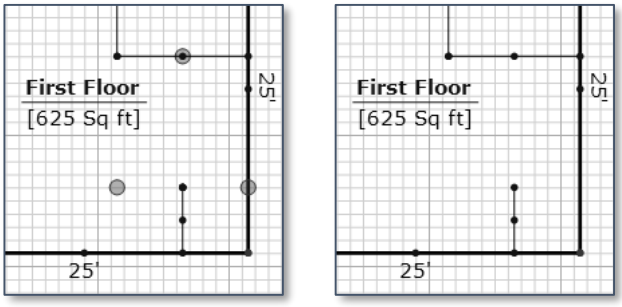
Note that text labels maintain their readability and any attached areas to your selected area also flip.

Drawing interior walls

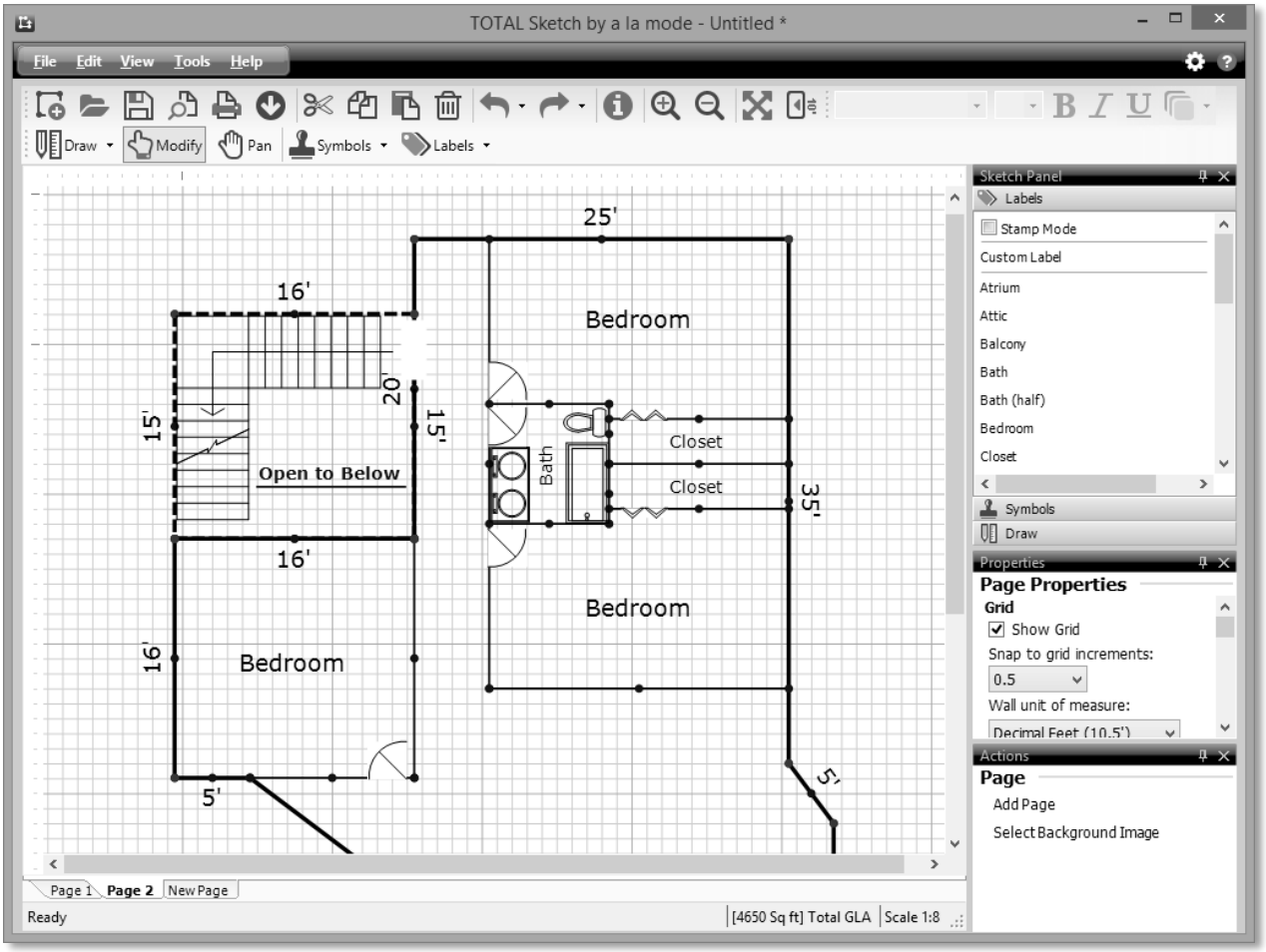
PROFESSIONALISM ACCURACY

When drawing interior walls, you'll be moving your cursor around frequently to reposition it, so pay special attention to the state of your cursor. You'll notice visible pop points when you are in an active drawing mode.

- Press **Enter** to toggle back and forth between the two.
- When your cursor is inactive, or "pen up", you can precisely reposition your cursor without drawing by using the numbers and arrows on your keyboard.
- Remember, clicking **Undo** (**CTRL+Z**) reverts your most recent line if your results aren't what you expect.
- Add walls first, then symbols and labels after.



Drawing **NOT drawing**



Drawing interior walls (cont.)

Task: Draw interior details

Let's use the second floor from our sample sketch.

Click **Draw** and ensure that you're in **Free-form** mode. Then, using **Enter** to toggle drawing mode on and off and **J** to jump your cursor to specific points on the drawing, complete some or all of the following action items in your second floor:

- Add bedrooms
    - The two bedrooms on the right are 20' x 15' each.
    - The bedroom on the left is 16' x 16'.
- Add a bathroom
    - The bathroom is 8' x 8'.
- Create closets
    - Closets are 3' deep.
- Using symbols, add bathroom fixtures.
- Using the eraser symbol (found in the **Other** category), create an opening for the stairwell.
- Using symbols, add bedroom and close doors.

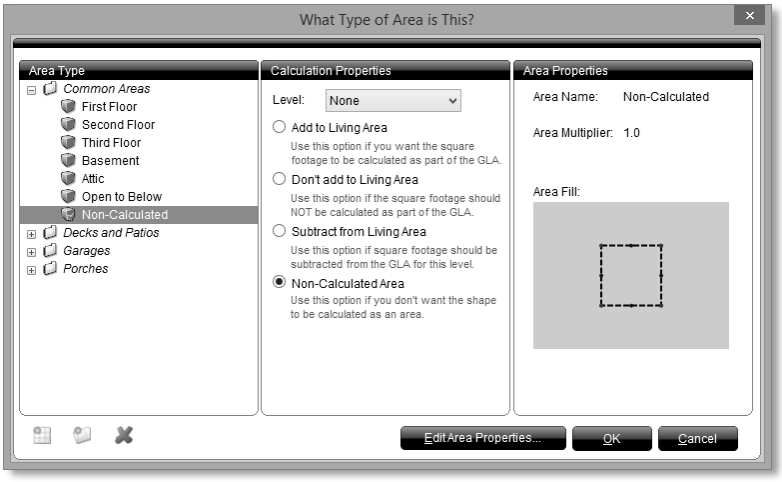
Set up area types

PROFESSIONALISM

The aesthetics of a sketch are often something appraisers want more control over. It's a great way to make your sketches stand out compared with other appraisers your clients may work with, helping your product appear more professional and of a higher quality.

TOTAL Sketch gives you the ability to customize many of things in your area type screen:

- **List of area names** – If there are common area types in your market that TOTAL Sketch does not include automatically, you can add them.
- **How each area is calculated** – As you create or adjust existing areas, you can configure how their calculations are handled.
- **The visual appearance of each area type** – This is where you can make your sketches really "pop". TOTAL Sketch gives you full control over the visual aspect of each area type.

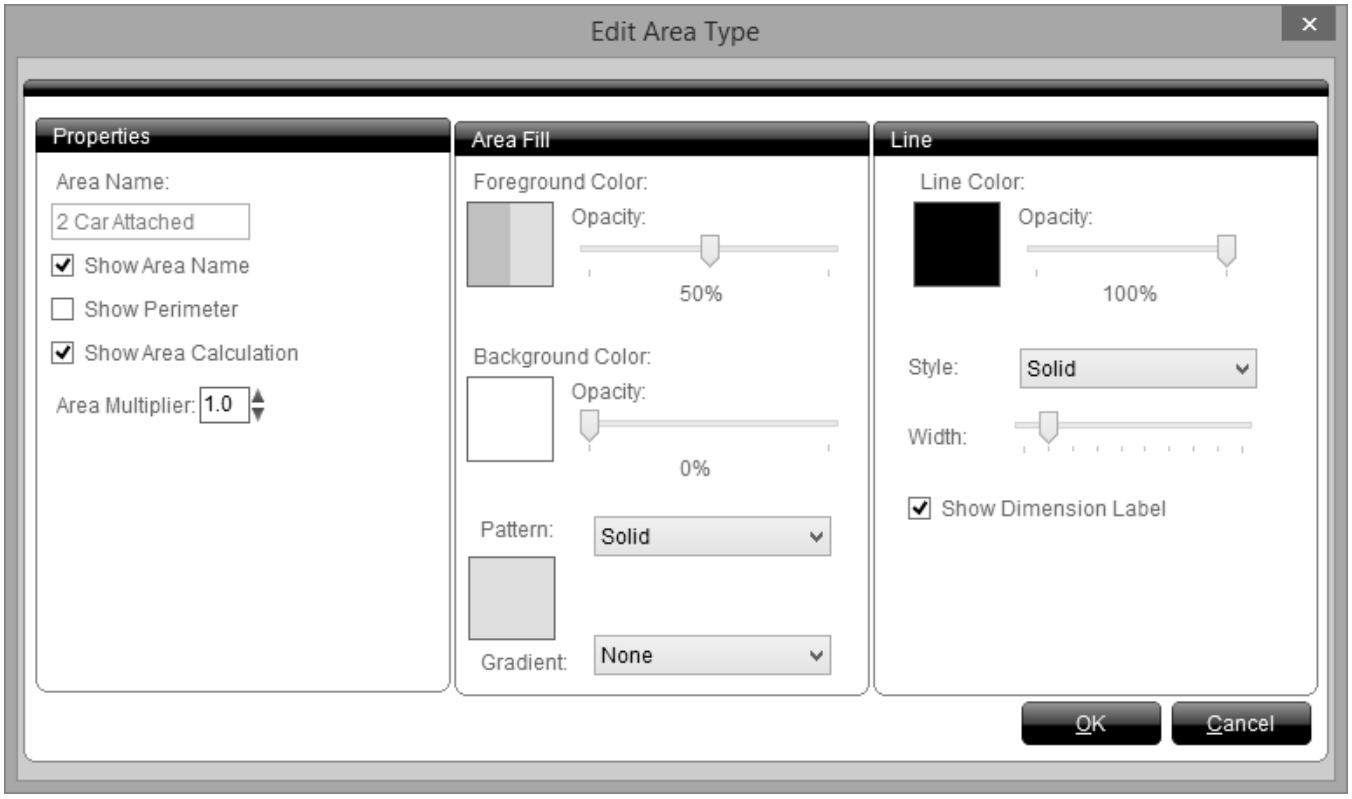


Task: Add a new area to the Area Type list

8005

1. Press **F4** to open the **Area Types** screen.
2. Click a category folder you wish your new area to be part of.
3. In the lower left of the screen, click **New Area**. An un-named area appears in your list.
4. Type a name for your new area.
5. With your new area selected, click to select your preferred **Calculation Properties.**
    - Add to Living Area.
    - Don't add to Living Area.
    - Subtract from Living Area.
    - Non-Calculated Area.
6. If desired, Click **Edit Area Properties** to customize the appearance of your new area.

TECH TIP



From the Edit Area Properties screen, you can:

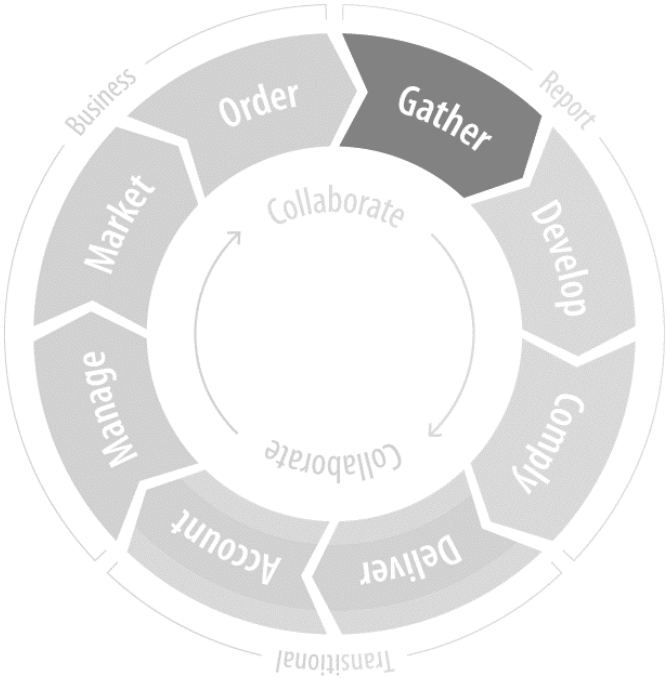
- Configure whether the area name, calculations, or perimeter of the area show.
- Choose a foreground and background color and fill pattern.
- Select an area border color and style.

Line properties

If you want additional control over the properties of your line, you have several options in TOTAL Sketch.

- **Dimensions direction** – Did you know that when you draw in a clockwise direction, dimensions appear on the outside of your drawing automatically, but when you draw in a counter-clockwise direction they appear on the inside?
- To switch dimension placement on completed areas, select an area using **Modify** mode, and then click **Switch Wall Direction** in the **Actions** panel.
- To switch dimensions for your entire sketch, press **ALT+F10** on your keyboard or click **Toggle Dimensions**  on your toolbar.
- **Hide a dimension for a single line** – Sometimes you have a single line you want to hide the dimension for. Just select it using Modify mode, then click **Hide Dimension** in the **Actions** panel.

Solving measuring problems using a DISTO™



DISTO model feature comparison

Feature	 e7100i	 e7300	 e7400	 e7500i	 D810	 S910
Effective range	200ft	250ft	250ft	650ft	650ft	950ft
Weight	3.25oz	4.5oz	5.4oz	7.2oz	8.4oz	10.2oz
Additive and subtractive measuring		✓	✓	✓	✓	✓
Pythagoras – 2 legs		✓	✓	✓	✓	✓
Pythagoras – 3 legs		✓	✓	✓	✓	✓
Smart Horizontal Measuring			✓	✓	✓	✓
Built-in timer			✓	✓	✓	✓
Digital level display			✓	✓	✓	✓
Digital viewfinder				✓	✓	✓
Touchscreen Input					✓	✓
Picture measurement					✓	✓
Point-to-point measurement						✓
Smart angle function						✓
Bluetooth compatibility	✓			✓	✓	✓
Battery type	AAA	AAA	AAA	AA	Li-ion	Li-ion
Price	**$149**	**$199**	**$279**	**$599**	**$849**	**$1,499**

Introducing DISTO

One of the best accessories an appraiser can have to help them go digital and more mobile is a DISTO. It's a fantastic tool that makes measuring properties easier and faster, and improve accuracy. But, figuring out the best way to use this tool can be daunting at first.

We've talked to thousands of appraisers, and we know that using a DISTO is a great way to improve your field data gathering workflow while also increasing the accuracy of your measurements and speeding up your process. But it's also very common to hear stories from appraisers who spent a lot of money to invest in a DISTO, only to end up using it as a paperweight because they weren't able to leverage it in the field.

Like any other new tool, you must learn how to use it properly in order to solve the very real-world measurements problems you run into every day. For example: What happens if there's no hard target at the other end of the wall you're measuring? Or if there's an obstacle in your way? You need to know how to use the tool in these cases too, or you'll find yourself falling back to your tape measure. You have to take off what we call "measurement blinders" in order to make the best use of your new tool. We'll show you how.

Why focus only on the DISTO? It's true that there are alternative products out there. Manufacturers like Bosch, Stanley, Craftsman, Fluke, and Ryobi all make similar products, some for less money, some for more. But DISTO is a name we've come to trust, and they're recognized as a leader in the digital laser measurement space. We're familiar with them, and have found them to be accurate, durable, and reliable for many years. And because Leica has a wide product range to fit any budget, it's a tool that every appraiser can afford to buy, but can't afford to be without.

Picking the right DISTO

Before we jump into the actual usage of your DISTO, let's talk about picking the best model for you. You'll find a comparison chart on the previous page that outlines the features we've identified as those most important to appraisers. You'll see that prices range from $199 to $849, but you get more features as you go up in their product range.

For our money, the current best deal for most appraisers is going to be the D5. It's in the middle of the price range, and is the first to offer a digital viewfinder (something most appraisers find critical on about 40% – 50% of the measurements taken in the field). It also does all the important measurement types that most appraisers use.

If you need or want Bluetooth® measurement sync capabilities, you'll need to make sure that you get the right model for the tablet you're using.

Aside from these two recommendations, picking the "right" DISTO is simply a matter of determining which features are most important to you. Features like the timer, digital level, or a touchscreen are nice, but may not be required for many appraisers.

Getting Started

Once you've picked your DISTO and are ready to begin, take a few minutes to read the laminated feature card and/or user guide that came with your DISTO. This is a critical step to understanding what features your DISTO has, and knowing how to adjust many important settings.

Adjust your default settings

PRODUCTIVITY

Most DISTOs ship with their settings configured for "feet & inches" measurement. However, many appraisers measure and sketch in decimal feet, so changing the settings to use this measurement type is a good first step. This way, your measurements match up exactly with how you enter those measurements in TOTAL for Mobile's sketch interface or in TOTAL Sketch back in your office.

- In your DISTO's settings, adjust the **Unit** setting to be **0.00 ft**. Be careful not to set **0.00 m** instead.
- If your device contains a built-in level indicator, turn it on.

The steps for these items vary depending on the specific DISTO you're using. Check your user guide for complete instructions. If you've lost your user guide, you can download a PDF version from Leica's website. You'll find a link to Leica's download page in the resources at the end of this eBook.

Basic DISTO usage

Fundamentals get you through most of your simple properties. For single measurement lines, it's just point-and-shoot. Click the red "On/Dist" button, line your device and laser up, and click the red "On/Dist" button again to take a single measurement.

Here are a couple of important items to know as you get started:

1. **Know where the reference point on your device is set** – All DISTOs have an icon that displays on-screen to let you know whether the measurement is taken from the rear of the device (the default) or the front of the device. Some devices also have a setting to measure from the mounting point for tripod use.
2. **Use the timer if your DISTO includes one** – When measuring longer distances where a shaky hand can dramatically change your measurement results if you're not careful, the timer lets you start a short countdown, allowing you to steady the device's laser and ensure that you're getting the measurements you need and that they're accurate.

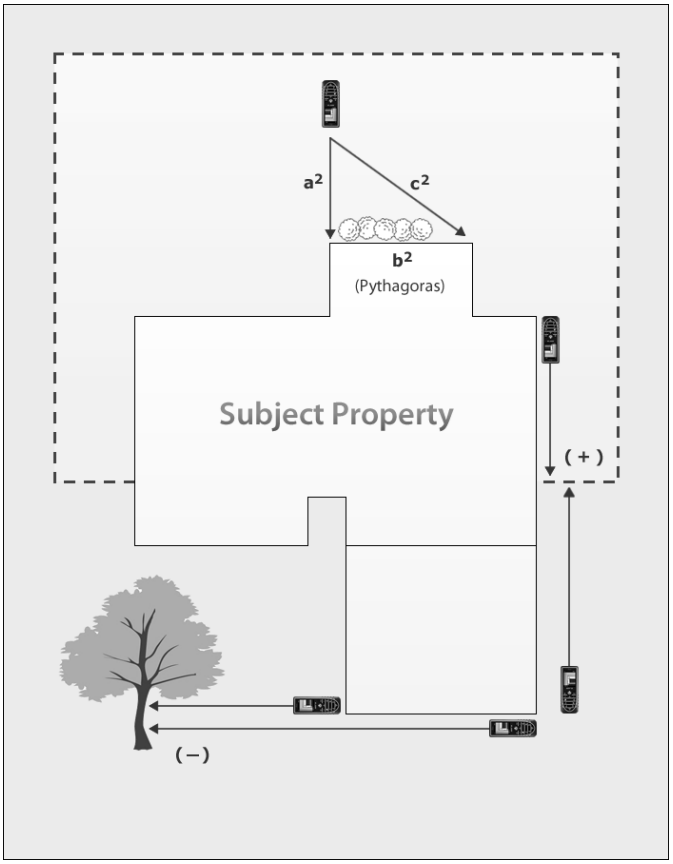
Straight Line Measurements

Basic usage is pretty simple. For each press of the big red button, one measurement is taken and displayed on the screen. This requires a hard target at the opposite end of the wall you're measuring, but for interior measurements, it's quick and simple. On many exterior measurements, there may not be anything obvious at the other end for the laser to bounce off. You'll need to know more about how your DISTO works to move beyond these simple tasks.

Consider this subject property as an example:

You can see several cases where knowing only the basics about straight-line bounce measuring proves to be a problem.

- The front of the garage is flush on both ends. There is no guttering or hard target at either end of the wall you need to measure.
- Both sides of the house have a fence hindering the measurement of the sides.
- Shrubbery along the back of the property prevents you from getting next to the wall, so you can't measure the length directly.



These are all cases where you need to know specifics about how your DISTO works to solve these common appraisal measurement challenges.

Take off your "measurement blinders" and begin to look beyond the end of the wall you need to measure.

Using add/subtract

Without a doubt, the single biggest tip for becoming a pro with the DISTO is learning to master the Add and Subtract function. Combined with an acquired ability to see beyond what you're trying to immediately measure and find targets either further out or closer in, this lets you take measurements in places you might not have seen an obvious target before.

For example, you want to measure the front of the garage in our example property, but there is nothing at the other end of the garage to bounce the laser off of. However, beyond the end of the wall, there is a tree trunk. The subtraction feature allows you to measure from one end, all the way to the tree and then measure again from the other end, subtracting the distance to get the total wall length.

1. **Take your first (longer) measurement.**
2. **Press the (-) key on your DISTO.**
3. **Walk to the other end and take another measurement to the same target.**
4. **Press the (=) key on your DISTO to see the results.**

Using add/subtract (Cont.)

Similarly, in cases where there is an obstacle part-way down a wall you wish to measure (such as the fence in our example property on either side of the house), you can use the addition feature to add multiple measurements together. The process is virtually identical, but you use the (+) button instead.

1. **Take your first measurement.**
2. **Press the (+) key on your DISTO.**
3. **Take your second measurement from the opposite end of the wall to the same target.**
4. **Press the (=) key on your DISTO to see the results.**

This simple technique takes you a long way to being able to exclusively use your DISTO to measure both simple and complex properties during your inspection.

Simple Solutions:

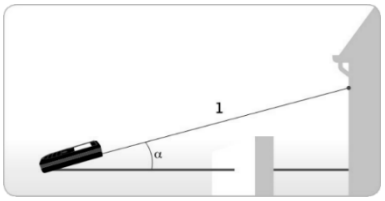
Invariably, someone will ask how you know the thickness of the fence in this example. Because it absolutely can affect the length of the wall you're measuring.

Here's a solution:

Take a black permanent marker and copy a ruler onto the side of your DISTO.

Smart Horizontal Mode

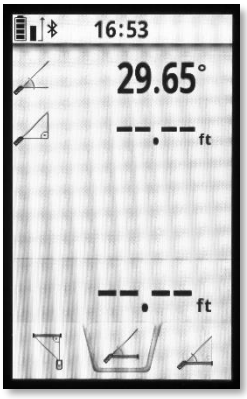
What happens if there is no hard target at the other end, and no obvious target beyond the end of the wall you're attempting to measure? Some DISTO models include a feature known as Smart Horizontal mode.



This mode allows a user to measure at an angle up or down (up to 45 degrees, depending on the DISTO model being used) to a point equal to the length of the direct horizontal line and it calculates the direct horizontal length.

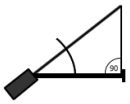
For example, think back to our garage problem from the example property. If there were no tree in the front yard, you could use Smart Horizontal mode to measure from one end of the garage, up at an angle, to a point under the eave of the property even with the other end of your garage front. The DISTO then calculates the direct horizontal length of the front of the garage.

The specific steps for each DISTO model vary slightly, but the gist of it is this:



1. **Enable the Smart Horizontal mode.** The icon typically looks like this:

7.



8.

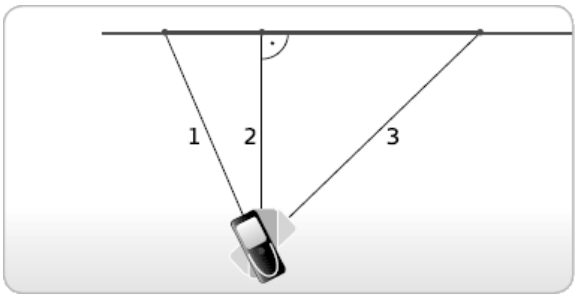
(Consult your user guide if you don't see a similar icon)

9.

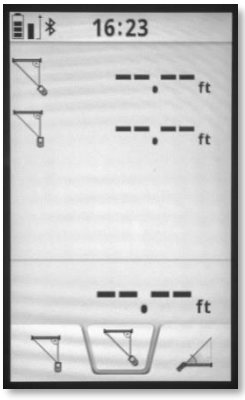
2. **Take your tilt measurement.**
3. **Record the direct horizontal length.**

The Pythagoras method

Direct measurement isn't always an option. In many cases you may not be able to get up against the wall to measure it. For example, out enclosed sun room has an aggressive shrub against the house preventing access. Using the Pythagoras function built into your DISTO, you can measure this property indirectly.

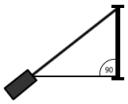


The Pythagoras function allows a user to measure the length or height of a wall while standing at an offset to it. The DISTO function works by taking a measurement of sides "A" and "B", and then calculating side "C" for you automatically, which is the wall you're measuring. For best results, extend the bracket to the fully locked position (two clicks) and hold it firmly against your chest as a reference point, or use a monopod. You can measure with the Pythagoras function using either two measurements (requiring that you start at a 90 degree angle to one end of the wall you're measuring) or three measurements.



When using the 2 measurement method:

1. **Enable the Pythagoras mode.** The icon typically looks like this:



(Consult your user guide if you don't see a similar icon)

14. Also, your DISTO screen should clearly be expecting two measurements.

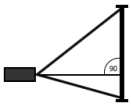
2. **Stand at a 90 degree angle to the right side of the line you wish to measure.**
3. **Take the longer line measurement first.** This should be shooting to the left end of the line.
4. **Without changing your point of reference (Keep it braced to your chest or rotate the monopod carefully) take the shorter line measurement.** This should be shooting directly forward to the right end of the line.

The Pythagoras method (Cont.)

When using the 3 measurement method:

1. **Enable the Pythagoras mode.** You may need to click the icon multiple times to invoke the correct 3 measurement method. The icon typically looks like this:

16.

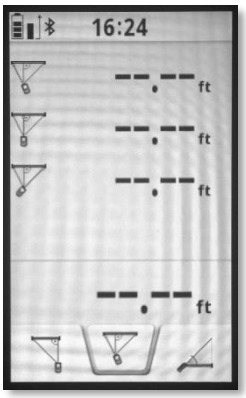
17. 

18. **(Consult your user guide if you don't see a similar icon)**

19.

20. Your DISTO screen should clearly be expecting three measurements.

21.



2. **Stand at any point along the wall you wish to measure.**
3. **Anchor your DISTO, then take the left measurement first.**
4. **Next, take the middle measurement.** This should be shooting directly forward to the wall, creating a 90 degree angle to the first measurement.
5. **Finally, take the right measurement last.**

The Pythagoras feature is a solution that works very well in conjunction with the timer feature of your DISTO. Trying to get your laser directly on the outer edges of a wall in bright sunlight, then holding it there while you press the On/Dist button without affecting the unit's targeting is challenging. Employing the timer helps. Just set up your measurement, and instead of hitting On/Dist, hit the "Timer" button first. Then press On/Dist to start the countdown and set your target.

Bluetooth compatibility

Some DISTO devices include Bluetooth capability that allows them to automatically send measurements to your tablet, which really super-charges your sketching. The exact functionality supported varies by DISTO and tablet platform. It's important to know that you must have compatible DISTO and mobile hardware.

For iOS

Apple's iPads and iPhones use the latest version of Bluetooth technology, known as Bluetooth Smart. Because of this, you must have a more recent DISTO that also uses this newer Bluetooth version. When this workbook was written, compatible DISTOs include the e7500i and the D810 Touch.

For Android

Android is more fragmented in its support for Bluetooth due to the wide variety of devices available on the market. Some devices have not yet adopted the newer Bluetooth LE standard. If your device does not support the newer Bluetooth 4.0 LE (Bluetooth Smart) standard, you'll need an older DISTO (either a D8 or D330i) to work with your device.

If your device is newer and does support the latest Bluetooth standard, then the e7500i or D810 should work with your device.

You can always e-mail our mobile experts at MobileExperts@alamode.com to make sure that you are getting the right DISTO that's compatible with your mobile device. Mobile technology changes, so it never hurts to check.

Additional resources

We've covered all of the most common solutions for dealing with real-world measurement challenges in the field using a DISTO laser distance meter. But your DISTO can do even more. Your absolute best resource for learning is the owner's manual that came with your device.

In addition, here are some other resources that can be very helpful:

YouTube Videos:

- http://alashort.com/DISTO-D8
- http://alashort.com/DISTO-D5
- http://alashort.com/DISTO-e7400

User guide downloads: http://alashort.com/DISTO-UserGuides

TECH TIP: Using a DISTO e7500i with your iPad: http://alashort.com/DISTO-TechTip

If you have additional questions not answered here, or have tips of your own you'd like to share with us, please reach out to us via e-mail at MobileExperts@alamode.com.

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Supplemental materials

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TOTAL Sketch hotkey guide

These hotkeys can trim seconds off many of your most repetitive tasks. When time is money, seconds add up to dollars quickly! Keep this reference handy, and you'll be flying through your appraisals faster than your competition can say "How'd you do that?"

File management

CTRL+N	New	**CTRL+P**	Print
CTRL+O	Open	**ALT+F4**	Exit
CTRL+S	Save	**CTRL+F4**	Close

Edit

CTRL+Z	Undo	**CTRL+V**	Paste
CTRL+Y	Redo	**CTRL+A**	Select all
CTRL+X	Cut	**DEL**	Delete
CTRL+C	Copy		

Sketch

J	Jump to corner
CTRL+Arrows	Jump that direction to nearest point or corner
CTRL+SHIFT+C	Copy sketch to clipboard
CTRL+I	Import image
CTRL+D	Draw mode
CTRL+M	Modify mode
C	Center sketch
Space bar	Pan (Hold spacebar down)
‘ or TAB	Switch from feet to inches (when typing a line length)
A	Auto-close area
B	Automatic bay window completion
X	Area lines (when drawing)
I	Free-form lines (when drawing)
E	Rectangle (when drawing)
V	Circle (when drawing)
P	Pentagon (when drawing)
O	Octagon (when drawing)
@	Free polygon (ie: type 9@12 and press Enter to create a nine sided polygon)
S	Insert symbol
SHIFT+S	Repeat last symbol

Sketch (Cont.)

T	Insert text
SHIFT+T	Insert last text
R	Rotate selected object 45 degrees
SHIFT+R	Rotate selected object 5 degrees
CTRL+SHIFT+R	Rotate selected object 1 degree
L	Angle left (when drawing an angled line)
R	Angle right (when drawing an angled line)
ALT+Up/Dn Arrow	Draw arc (when line center selected in modify mode)
CTRL +	Zoom in
CTRL –	Zoom out
CTRL+Pg#	Go to that page number
F9	Toggle sketch panel
ALT+R	Toggle line dimensions
H	Orient object horizontally
ALT+F10	Toggle dimensions outside/inside/off
SHIFT+Enter	Wrap text label (when typing free form text)
SHIFT	Enable stamp mode (when placing symbols)

Area management

F4	Define area
F6	Show calculations

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