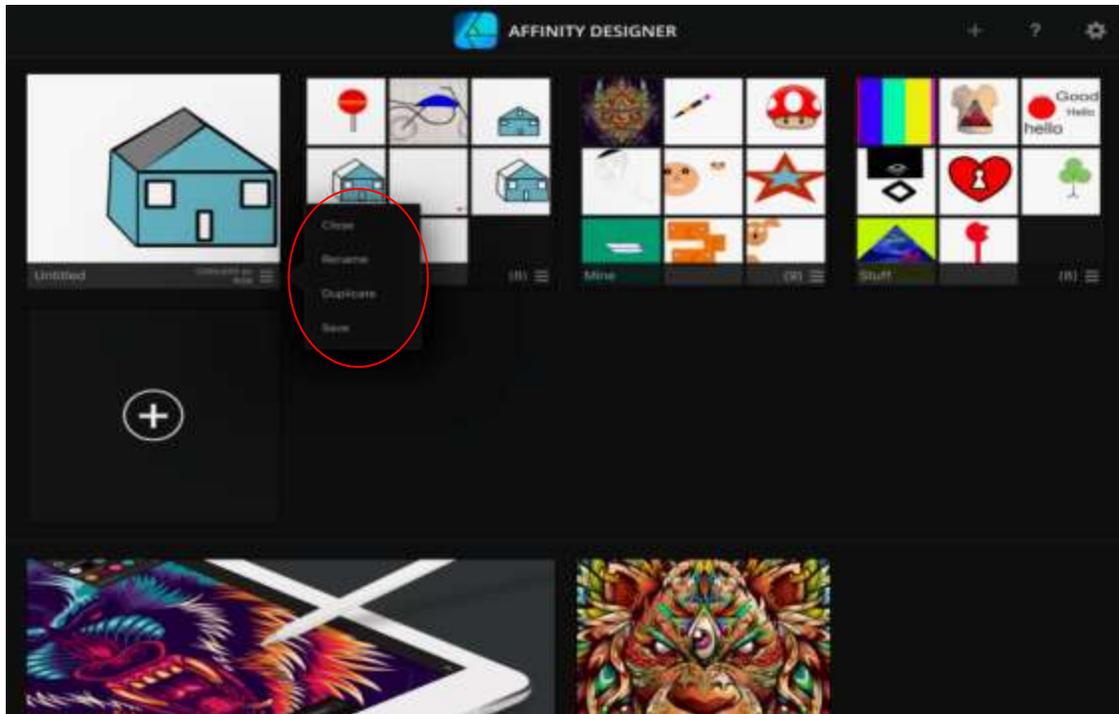


## Chapter 2 - Let's Get Creative

In the last chapter you placed your first shape on the canvas. We will continue with shapes and learn a couple more studios. The Home screen, displays a thumbnail of each document you created whether or not the document is a blank canvas or one that contains substance. Pressing the Menu Icon or Hamburger Icon ☰ to the right of each Document opens a dialog box that allows you to Close, Rename, Duplicate or Save a document. See next graphic which shows dialog box open to close, rename etc.



Home Screen

Note that my home screen shows one document and three project folders. Each project folder contains additional documents.

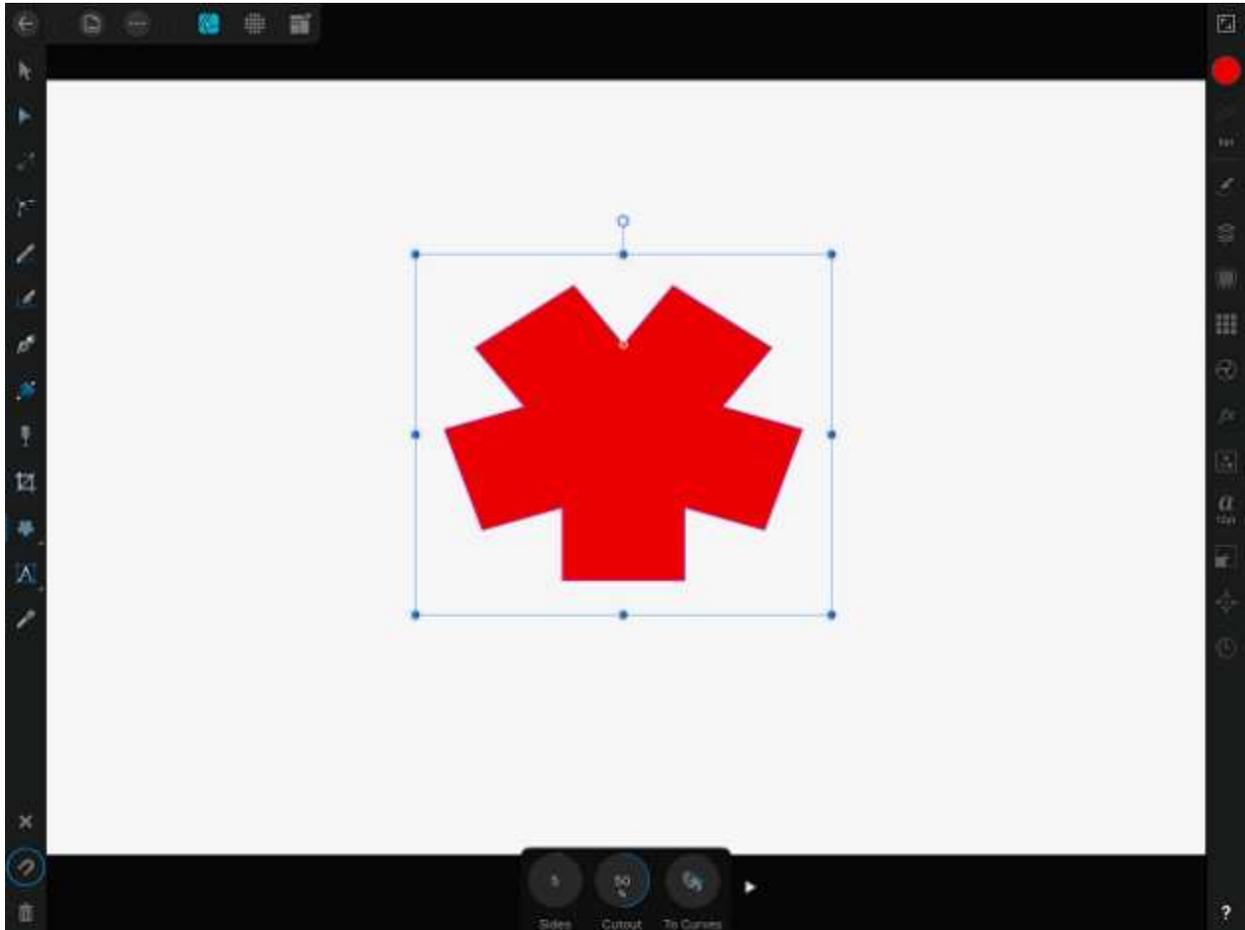
Close allows you to delete the current document permanently from the Home Screen. Rename allows you to rename a document, Duplicate is obvious, and Save, saves a copy to your iPad allowing access at a later time even if you use the close option to delete it. Concerning names, each new document created will have the default name of Untitled. You can rename any document from the Home Screen. The help manual is available here as well by tapping the ?.

Let's experiment.

1. Press the + and choose New Document from the next screen to create a new document as before with Web as the Device type and press Ok. The drawing canvas is now displayed. Tap the Rectangle Tool twice to see additional shape choices. Remember Rectangle is the default

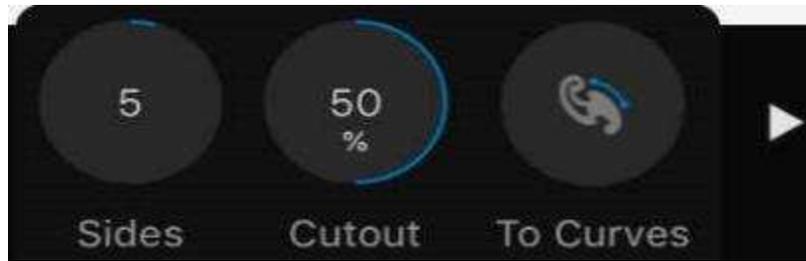
selection and the context menu bar at the bottom of the canvas may change regarding the shape tool chosen.

2. Choose Square Star as the shape to draw. Make the fill color red by opening the Color Studio and select red from the Swatches dialog box as we did in the last chapter.
3. Draw a Star on the canvas.
4. Tap the Color Studio again to close it. Your canvas should look like the next graphic.  
Just a noted here. The drawing canvas is not a background but a flat form to hold your drawing. We will learn more about how to add backgrounds in a later chapter.



Square Star Sample

Look at the enlarged Context menu as noted in the next graphic.



Enlarged Context Menu

Make sure your Star is selected before tapping on any of the Context choices. The first Icon on the Context Menu, Sides, changes the number of squared points visible, Cutout controls the width of all squared points and To Curves converts an object into a series of connected lines and nodes for editing purposes. If you tap To Curves, you enable To Curves. Selecting the Node Tool on the Tool Bar allows complex editing of any and all nodes on an object. We will talk about Nodes in a separate chapter. This allows you to edit your shape further.

Looking at the Sides property, the default is 5. This represents the number of sides shown.

5. Tapping the Sides Icon opens a number keypad. Type in any number to change the number of Sides. You may also use your finger placed on top of the Sides circle (where #5 is) and slide right to increase or left to decrease. This slide method on top of numbered circles works on all numbers that can be changed. Move the Slides to about 24 and then slide left and right over Cutout and to note changes.
6. Tap To Curves. Select the Node Tool. Your shape can now be changed using this tool. A word of caution here, once To Curves is activated, you are not allowed to re-edit the shape such as add more sides. You can however adjust each arm of the star by moving a node. For this example tap To Curves to only note the change and the number of nodes visible. Looking at your Star, you see several small white squares called nodes.
7. Tap on any of the Nodes and drag. You can get really creative here.
8. Select another node and drag. You can quickly make radical changes to your shape. Tap the Rectangle Tool twice to show multiple shape choices and choose Cog. Draw a Cog on your canvas next to the star. Note the additional Context Menu choices, Teeth and Inner Radius as an example. Using your finger as a slide, change the properties of the different choices to see the effects. This is the time to experiment.

If your screen is like mine after making some wild changes, you may have a visible mess. Let's try a new method to clean things up.

1. Tap the Move Tool. Choosing the Move tool will automatically place a sizing box around the last object that was selected. If you only have the Square Star on your screen this will be selected.
2. Press the X to deselect your star. Place your finger towards the upper left corner of the canvas and begin drawing a sizing box, around all shapes you have on the canvas. The sizing box must encompass all the shapes as it will not select them. Press the Garbage can icon located at the lower left corner. All items selected are deleted.

## Time to learn a new Studio

1. Tap the History Studio. Depending on your actions such as how many times you re-dooed and un-dooed will be indicated in this studio. There is a slider at the bottom of the studio which when moved back to the left will re-build your canvas. You can stop it anywhere you like and continue a fresh. You can also clear the history from this studio.

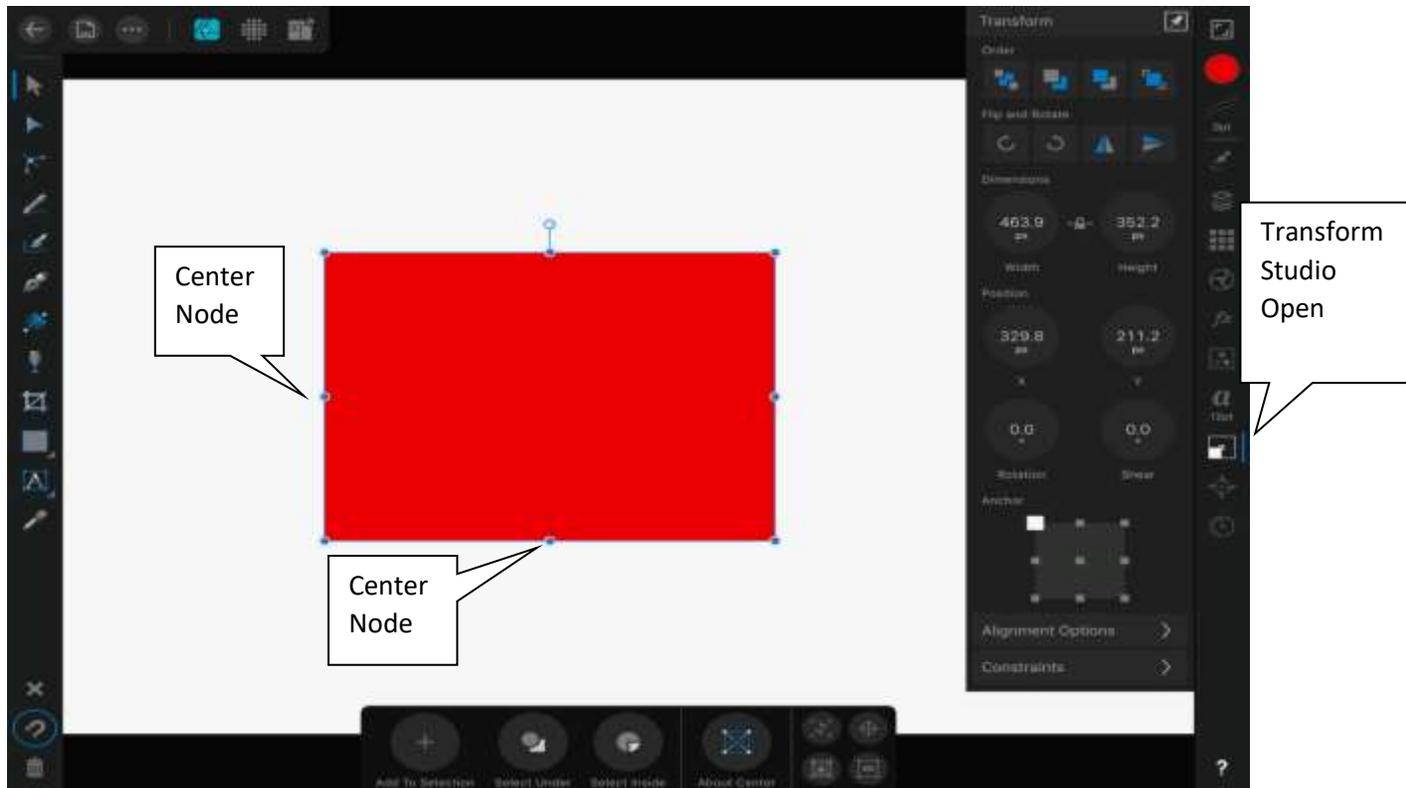
Let's learn how to constrain an object or maintain its aspect ratio. What does this mean? Basically this means to make the size of the object being drawn equal. An example of this would be making rectangles sides square while drawing it. There are a couple of methods to constrain an object.

One method is to change the dimensions after you have placed it on the canvas using the Transform Studio.

The second method is using gestures while drawing the object. After the object is on the canvas, use the sizing box to equal the sides or constraints by double tapping any of the blue dots. Choose the blue dot on the side you wish to square up.

The last method is performed while placing the object on the canvas and using extra fingers. These methods will be demonstrated next.

1. Return to the Home screen and create a new Web Document as before.
2. Make red the default color from the Color Studio.
3. Select the Rectangle Tool.
4. Place a rectangle on the canvas.
5. Open the Transform Studio and note the dimensions. We could change it to 300 by 300 in dimensions to square it up as an example.
6. Delete the rectangle. Using whatever method you like.
7. Keep the Transform Studio open (remember the Push Pin Icon to lock the Studio open during these next steps).
8. Draw a new rectangle on the canvas. View the sizing box and see the blue dots around your rectangle.
9. Double tap any of the center nodes on the sizing box. This action makes the rectangle square based on what size it was originally and the side you selected. Note the dimensions changing within the Transform Studio. See next graphic.



Rectangle with Transform Studio open

10. Delete this rectangle.

One more way to constrain.

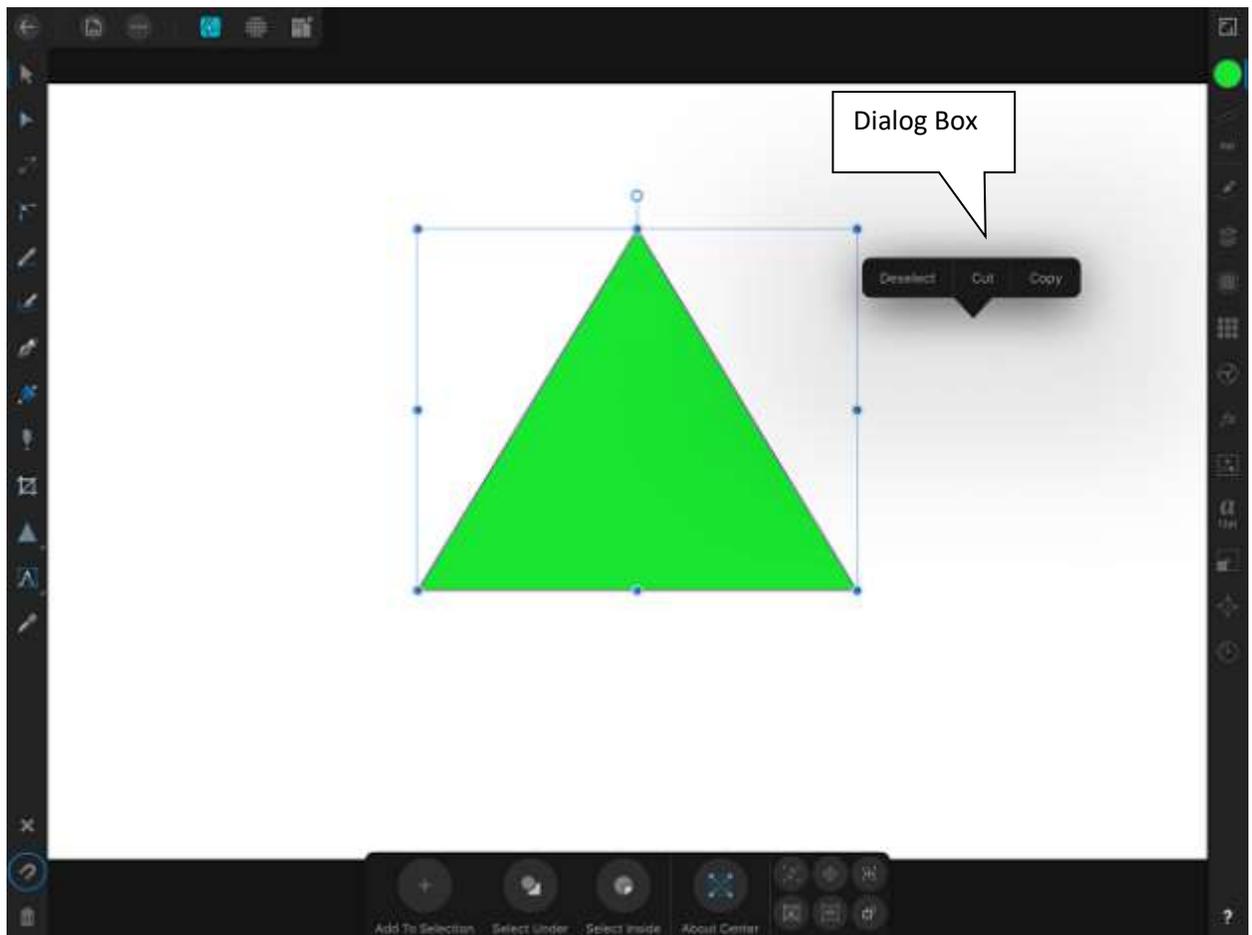
1. Begin drawing a new rectangle. As you begin drawing, place another single finger on the canvas and hold. Complete placing the rectangle. Note the dimensions in the Transform Studio changing equally as you draw. Two finger hold on the screen in this same manner lets you move the shape around while it is being drawn.
2. Close Designer completely on your iPad and restart Designer. This allows for a fresh load and defaults to be renewed. Keep in mind however that some properties you changed such as RGB sliders will not be reset.

For the next lesson you will create a simple pine tree using triangles and learn how to copy effectively.

1. Create a new Web Document.
2. Choose green as the default shape Fill color. Select a Triangle from the Rectangle Tool.
3. Place a triangle on the canvas near the top of the middle. Using the Transform Studio, change dimensions to Width = 220 and Height = 220. Close the Transform Studio.
4. Select the Move tool.

### The many ways to copy

5. Long finger press on an object you wish to copy with a single finger will bring up a dialog box for Deselect, Cut, Copy and Paste. See next graphic.



6. Choose Copy. Long tap again and choose paste. You will have a duplicate triangle placed exactly on top of the original.
7. Tap on the sizing box and drag the top triangle to toward the bottom of the first. Long tap again and select paste for a third triangle. Grab this copy and drag it down to the bottom of the second triangle.
8. Open the Layers Studio. See the layers being formed. Inside the Layer Studio, you can select one or more layers by sliding across the layer with your finger from left to right. Select the two top layers and tap the garbage can to delete them. You should have one triangle on the canvas near the top of your screen.

The second method uses your fingers.

1. Make sure your triangle is selected. With two fingers from one hand on the screen, one finger from the other hand grab the triangle and drag down to see duplicate appear.

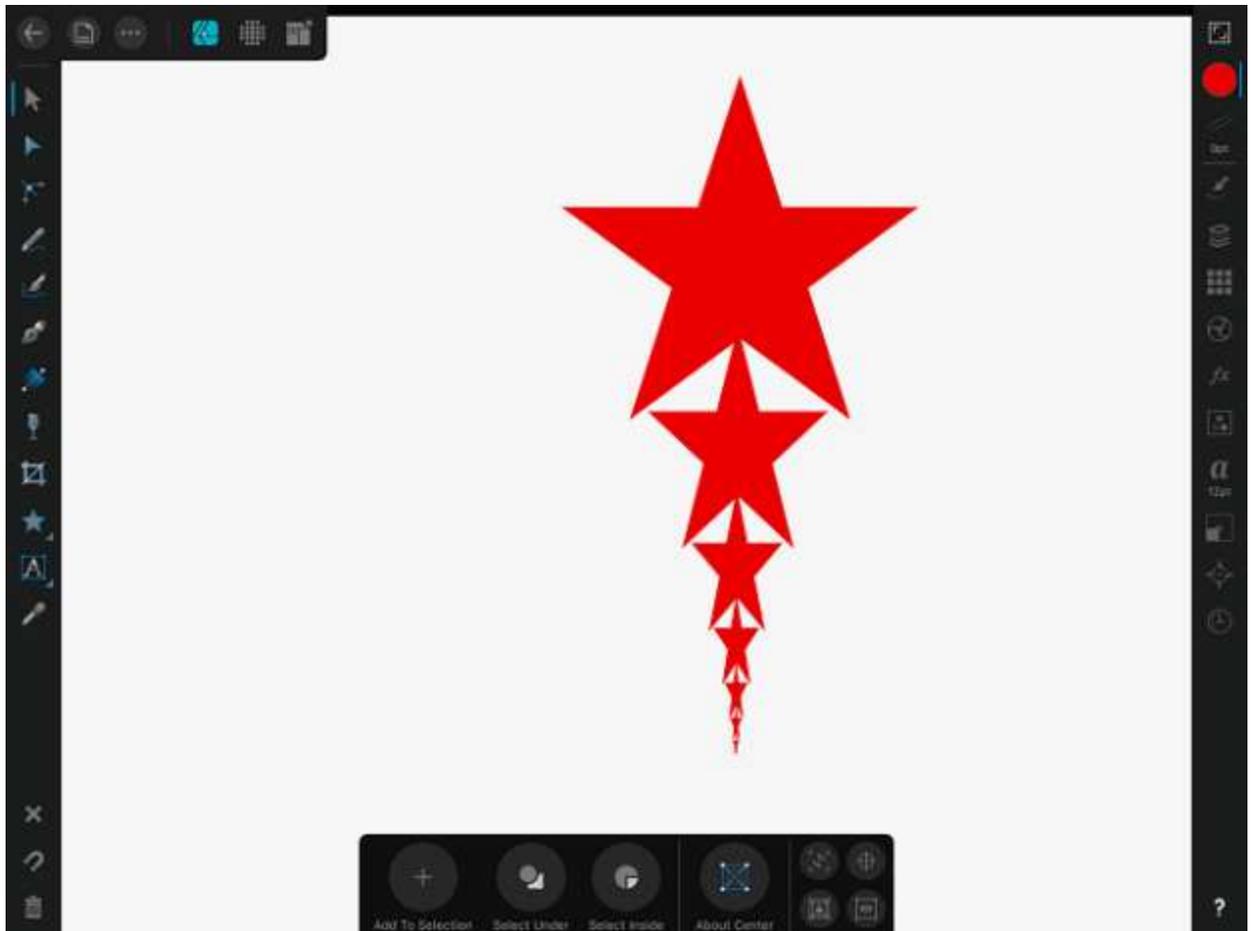
2. Place the second triangle underneath the first as before and repeat the process for the last triangle.
3. Clear everything from the canvas.

The last copy method is Power Duplicate. Power Duplicate is accessed from the Edit Menu and choosing Duplicate. Power Duplicate transforms the copy accumulatively to subsequent objects that you copy. This means you can apply a change to the item you are copying such as making the copy smaller or rotating it a few degrees. Once the changes are made to the copy and you execute the Duplicate function, the next items will be adjusted. This copy method is very powerful. If you happen to make a mistake, you can always open the Layers Studio and delete any layer that contains a mistake.

This method is demonstrated in the next set of steps.

1. Place a new shape of your choice on the canvas near the top middle of the canvas. I chose a star and made it red.
2. Select the Move Tool.
3. Open the Edit Menu  from the icon bar at the top of the screen and select Duplicate from the list of choices. An exact copy will appear on top of your original. Grab the sizing bar and move the top shape down a little.
4. Using the sizing box, make the shape a little smaller.
5. Open the Edit menu again and tap Duplicate. The object will now be placed under the last object. This will be the beginning of a path for additional duplicates. This method is called Power Duplicate, as it associates movement and size of the object copied for each copy forward. As an example, suppose you were making a star trail and each star to be copied was a little smaller than the first.
6. Select the Duplicate menu choice again and you see a trail of stars forming. Each one a little smaller than the other. See the next graphic for the example. My example places the copies in a straight line. If you rotate the first copy by a few degrees, the subsequent copies will follow that angle.

You can tap Duplicate as many times as you wish to make a row of smaller and smaller stars.



7. Return to home screen and create a new Web Document.

Let's take a closer look at the Layers Studio. Layers can be a complex issue. The ability to create anything using layers is very powerful. Layers allows you to add changes to the drawing non-destructively. Imagine this, suppose you have a drawing of a horse. The drawing is very valuable, but you would like to see what the horse looks like with a mustache drawn on the horse's face. You get a sheet of clear plastic the same size as the horse canvas and place it on top. This becomes your practice canvas to draw a mustache on his face. Now assume, you want to see what the horse looks like with a parrot sitting on his head. Place a second sheet of plastic on top of the original and your mustache. Draw a parrot on the horse's head. Now you want to see what the horse looks like without the mustache but with parrot. Remove the first plastic. That's the general idea. Layers allow you to manage your objects with precision. Designer creates a new layer for almost every object or action you place on the canvas. You can then manipulate Layers by selecting them and moving them to affect their hierarchy. Layers Studio lets you add layers, delete layers group layers, and move the order of layers around. Having the Layers Studio open while you work lets you see layers being added.

You will draw a front of a house with two windows and a door.

1. You should have a clean white canvas.

2. Open the Color Studio and choose blue as your default Fill color and leave the Stroke as black. Open the Layers Studio. Open the Layers Studio and keep it open during this exercise. To keep any Studio open make sure it's push pin is selected. Selection is indicated by a white outline around the Push Pin. Review the Layers Studio. Since we started with new document, there should be no thumbnails of layers visible.
3. Select the Snapping Tool (lower left corner of screen). This will aid in placing our objects.
4. Select Rectangle as the drawing tool and place a nice sized rectangle in the middle of your screen. This rectangle will become the front of our house. Size it accordingly. Remember to select the Move Tool if you need to move or re-size anything you place on the canvas.

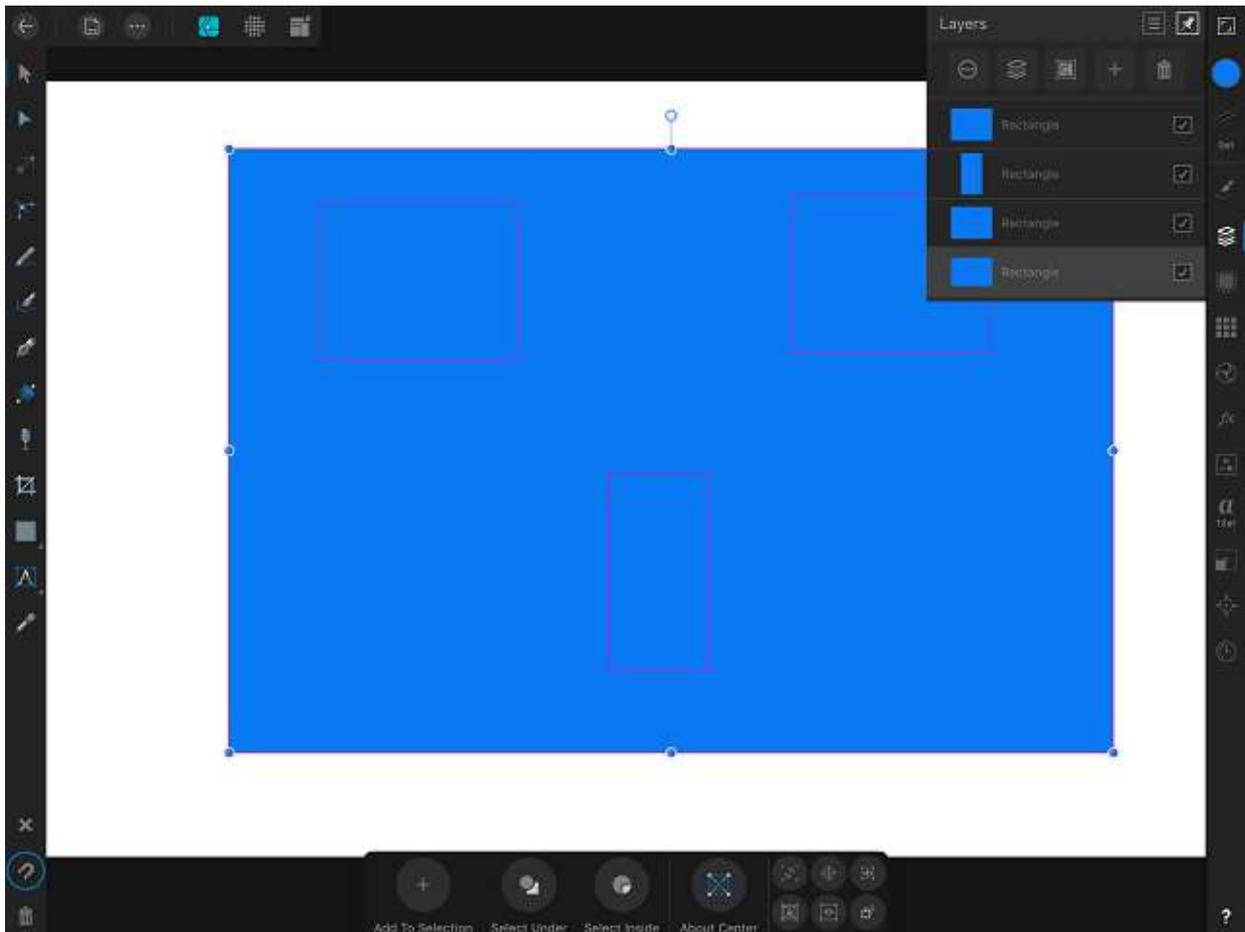
Now look at the Layers Studio and you see a layer that contains a thumbnail of a rectangle now added to the Layers Studio. This is your first layer. Subsequent actions will be placed on top of that layer or whatever layer is currently selected. Let's draw some windows.

5. Place a second rectangle near the upper left corner of the first rectangle. This will be the first window. Notice sizing bar around your windows rectangle placed on canvas and you see a new layer formed in the Layers Studio. You can use the Layers Studio to select and deselect what you placed on the canvas.
6. Tap the de-selection Icon (X, lower left corner of screen). Sizing box changes to outline as both rectangles on canvas are same color. Look inside the Layers Studio. You should see two layers each containing a rectangle and labeled as such. You can change the layer name by selecting the menu option  and going to Layers Options and tapping on the default name (Rectangle) which opens a dialog box allowing you change the default name to whatever you like. We will cover more of the Layers Options on page 30.
7. Tap the Move Tool. This helps in not drawing additional objects on the canvas.
8. In the Layers Studio, select the top rectangle by tapping on it. Sizing box becomes active around rectangle allowing you to make changes. Whatever layer is selected will become active.
9. Select the bottom rectangle layer in the Layers Studio which is the front wall. The first rectangle you drew should now have a sizing box around it. The window will have an outline around it. Multiple layers can be selected in the Layers Studio by sliding your finger across the layer from left to right. De-selection works the opposite.
10. Select both layers and sizing boxes around each rectangle. Select the Move tool and you can move both rectangles around your canvas as one object.

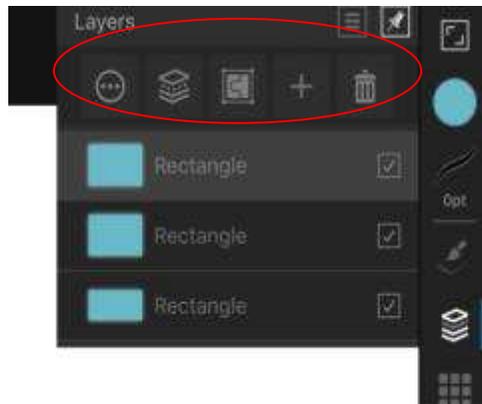
We could easily adjust the Stroke Width to give our rectangles an outline and we may at some point want to do that. We will leave things as they are so you see what effects they have. Let's add one more window.

11. Select the window rectangle with a single tap to the top layer in Layers Studio. This de-selects the wall rectangle as we had both selected in the last step. This puts focus on the window rectangle.

12. Using the first copy method described earlier (long tap, copy menu, long tap paste) make a copy of the second rectangle. Remember Designer places the copy on top of the original actually hiding the original. Notice in the Layers Studio one more layer added.
13. Grab the sizing box of the second window rectangle and place on the opposite side of the wall and even with the first window. With the Snapping tool enabled, a red line appears helping you place the second rectangle even with the first rectangle.
14. Let's draw one more rectangle to be our front door. Select the Rectangle tool and place a rectangle where you think a front door should be.
15. Select the Move Tool.
16. Select the rectangle in Layers Studio that represents the left window.



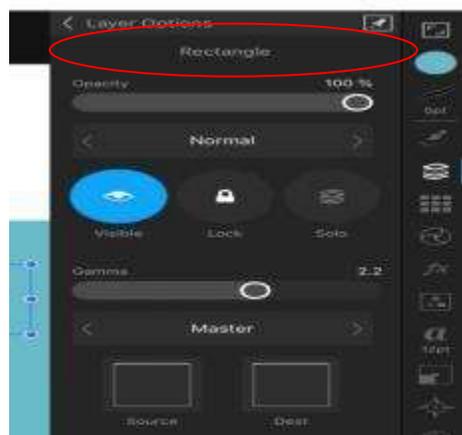
Let's examine some of the features of the Layer Studio. See graphic of open Layers Studio below.



Open Layers Studio

Beginning with the Ellipsis, this icon opens a dialog box to access more properties such as changing the label of the layer. The second icon (Layer symbol) allows you to merge and convert layers. The third icon (Puzzle), allows the user to add a group layers. The fourth icon (+), allows the user to add additional blank layers. The last icon (Trashcan), allows the user to delete the selected layers. A layer can be selected by dragging across the layer with your finger. The check box determines if the layer is visible. The three bars above the Trashcan, opens a dialog box to select all, lock, unlock, hide and show all etc. The Layers Studio is a great place to manage your layers. It allows for easy object deletion for example.

17. Select the bottom layer which should be the rectangle that is front of the house.
18. Tap the Ellipsis which opens the dialog box shown in next graphic.
19. Tap on the word within the red circle which is the default name given by Designer for the label name. In this example it is "rectangle". Note Red circle below.
20. Tap on the word "rectangle" and change it to "Front". No need to name others at this time.
21. Close the Layer Options dialog box to see the new name of the layer.



22. Make sure all four layers in the Layers Studio are selected.
23. Open the Edit Menu (three dots) and select Subtract under the Geometry properties. Note Layers Studio. The layers have now been joined together into one object. The truth is the Subtract function cut away the other rectangles by removing overlapping portions.

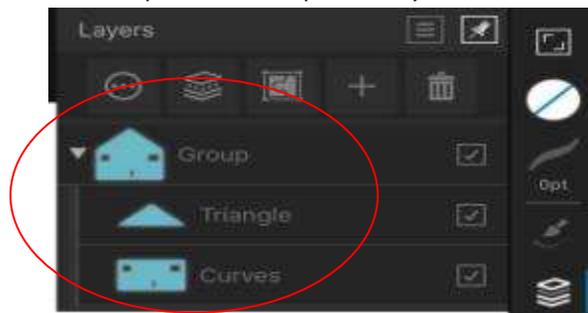
The four layers are now combined into one layer labeled Curves Front. More so, the four layers have become one new object or shape. The new shape now containing the two windows and one door can be

sized and moved as one. This operation just performed is called Boolean Operations. Once a Boolean operation is performed you cannot select singular objects, such as one of the windows, to make changes unless you use the Node Tool. More about the Node Tool later. You will also have more exposure to Boolean Operations later as well. For now, let's add the roof.

24. Open the Rectangle Tool menu and choose Triangle. Place a triangle on top of our wall rectangle. Size it to your satisfaction. The Layers Studio should still be open. A new layer containing the roof triangle is now on top of the curves layer.

Using the Layers Studio lets group the two layers together.

25. In the Layers Studio, Select both layers, Triangle and Curves.
26. Select the Group Icon (puzzle). You now see one layer represented by a thumbnail of a house with a small expansion triangle left of the thumbnail.
27. Tap on the expansion triangle expanding the layers showing the contents of the group. See below. Each layer in the Group can be independently selected to allow for changes.

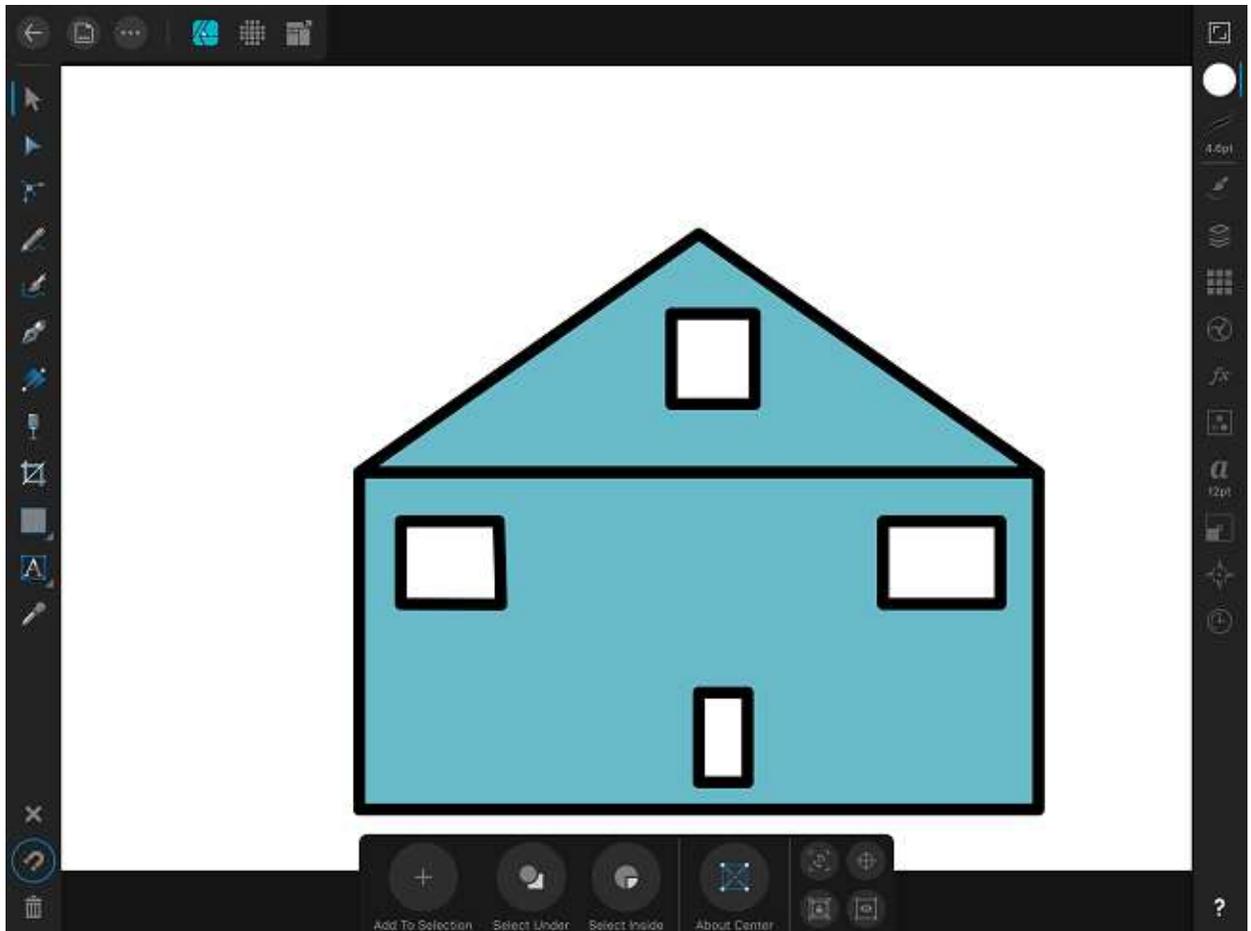


Let's look at a couple of things you can do in the Layer Studio. Suppose you wanted to show your client what the house would look like with a window in the attic and be able to turn that new window on and off.

28. Select the Rectangle Tool.
29. Place a rectangle similar to the other two windows in the center of the roof. The new window is the same color as the roof.

The Boolean Subtract operation will not work here. For the most part we want this to be an independent layer you can turn on and off. You also want it to be a part of the rest of the house, so when selected it will move with house.

30. Join the new window layer to the Group. In the Layers Studio, Tap hold the new window layer until a blue line appears across the layer. Drag down until the blue line is just below the Group. This layer will become the top layer in the group. Now when the house is selected everything will move together.
31. Let's make the new window visible. In the Layers Studio, select the newly added rectangle to the group.
32. Open Color Studio .Choose white from Quick Colors. A white rectangle is now in the Group. This new layer can be turned on and off by removing the check mark.



You now see how layers can be moved around with the tap and hold method. Be aware that this moving action can make a layer a part of a new group or it can be an independent layer based on where the blue line ends up. This requires some Practice. If you make a mistake, simply use Un-Do. You can display or hide the new window anytime by selecting or deselecting the Check box in the Layer. You can deselect any layer at any time to hide it. Objects can be deleted here as well simply by selecting the layer and tapping the Garbage Can.

Now we will add some depth to your house by adding an outline around each object via Stroke. Make sure the Group is selected before the Layers Studio is closed.

33. Open the Stroke Studio. The default color for Stroke should still be black. With the Stroke Studio open, move the Width Slider a little to the right. Around 5pt is fine.

Each object should now have a black outline around it. Your canvas should look very similar to the next graphic.

34. Return to the home screen to save a copy of your work.

Let's Review:

1. Worked with shapes and their respective properties as shown in the context menu bar.
2. Looked at the History and Layers Studio.
3. Used the Color, Stroke and Transform Studio from Chapter 1.
4. Shown the various copy methods.
5. Saw a Boolean Operation.
6. Began work on a House.