

## 3 Using Shapes to Create Artwork for a Postcard

### Lesson overview

In this lesson, you'll learn how to do the following:

- Create a document with multiple artboards.
- Use tools and commands to create a variety of shapes.
- Understand Live Shapes.
- Round corners.
- Work with the Shaper tool.
- Work with drawing modes.
- Use Image Trace to create shapes.



This lesson takes approximately 60 minutes to complete. Please log in to your account on [peachpit.com](https://peachpit.com) to download the lesson files for this chapter, or go to the “Getting Started” section at the beginning of this book and follow the instructions under “Accessing the lesson files and Web Edition.”

Your Account page is also where you'll find any updates to the chapters or to the lesson files. Look on the Lesson & Update Files tab to access the most current content.



Basic shapes are at the foundation of creating Illustrator artwork. In this lesson, you'll create a new document and then create and edit a series of shapes using the shape tools for a postcard.

## Starting the lesson

In this lesson, you'll explore the different methods for creating artwork using the shape tools and various creation methods to add artwork to a postcard that contains a pirate map.

1. To ensure that the tools function and the defaults are set exactly as described in this lesson, delete or deactivate (by renaming) the Adobe Illustrator CC preferences file. See “Restoring default preferences” in the “Getting Started” section at the beginning of the book.

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● **Note:** If you have not already downloaded the project files for this lesson to your computer from your Account page, make sure to do so now. See the “Getting Started” section at the beginning of the book.

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2. Start Adobe Illustrator CC.



3. Choose File > Open. Locate the file named L3\_end.ai, which is in the Lessons > Lesson03 folder that you copied onto your hard disk, and click Open.

This file contains the finished illustrations that you'll create in this lesson.

4. Choose View > Fit All In Window; leave the file open for reference, or choose File > Close.

## Creating a new document

You will now create a document for the postcard that will have two artboards, each with content that you will later combine.

1. Choose File > New to create a new, untitled document. In the New Document dialog box, change the following options:
  - Select the Print profile at the top of the dialog box.

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▶ **Tip:** In the New Document dialog box, you will see a series of document presets you can start each project with.

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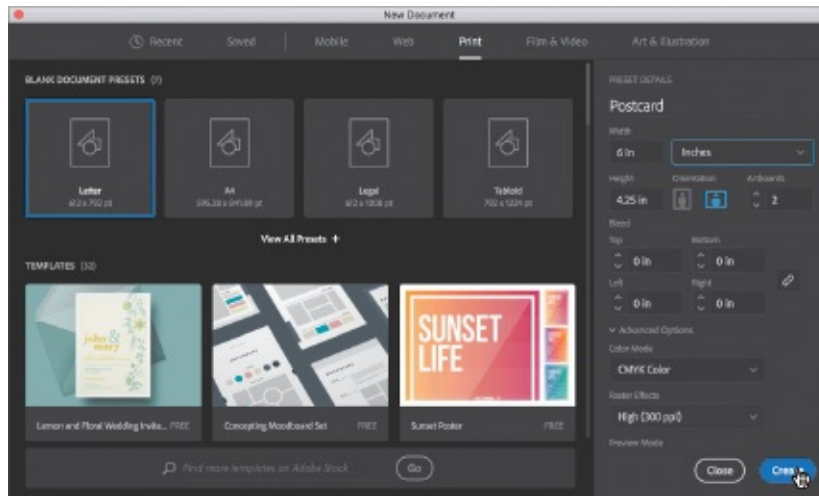
- Select the Letter document preset.

On the right, in the Preset Details area, change the following:

- Name: Change it from Untitled-1 to **Postcard**.
- Units: Change the units from Points to **Inches**.
- Width: **6 in** (You don't need to type the **in** for inches.)
- Height: **4.25 in**
- Orientation: **Landscape** (🖼️)
- Artboards: **2** (to create two artboards)

You'll learn about the Bleed option shortly. At the bottom of the Preset Details section on the right side of the New Document dialog box, you will also see Advanced Options and More Settings (you may need to scroll to see it).

They contain more settings for document creation that you can explore on your own.



● **Note:** You can set up a document for different kinds of output, such as print, web, video, and more, by choosing a profile. For example, if you are designing a web-page mock-up, you can select the Web profile and select a default document, which automatically displays the page size and units in pixels, changes the color mode to RGB, and changes the raster effects to Screen (72 ppi).

2. Click Create in the New Document dialog box.
3. Choose File > Save As. In the Save As dialog box, ensure that the name of the file is Postcard.ai, and save it in the Lessons > Lesson03 folder. Leave the Format menu set to Adobe Illustrator (.ai) (macOS) or the Save As Type option set to Adobe Illustrator (\*.AI) (Windows), and click Save.

Adobe Illustrator (.ai) is called a *native format*. That means it preserves all Illustrator data, including multiple artboards.

4. In the Illustrator Options dialog box, leave the Illustrator options at their default settings, and click OK.

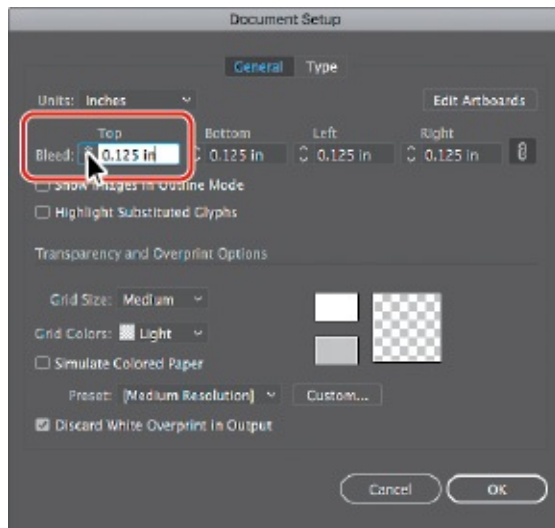
The Illustrator Options dialog box is full of options for saving the Illustrator document, from specifying a version for saving to embedding any files that are linked to the document.

► **Tip:** If you want to learn more about these options, search for “Save artwork” in Illustrator Help (Help > Illustrator Help).

5. Click the Document Setup button in the Properties panel (Window > Properties).

The Document Setup dialog box is where you can change document options like units, bleeds, and more, after a document is created.

6. In the Bleed section of the Document Setup dialog box, change the value in the Top field to **0.125 in**, either by clicking the Up Arrow to the left of the field once or by typing the value, and all four fields change. Click OK.



The red line that appears around both artboards indicates the bleed area. You will typically add bleed to artboards where you want artwork to be printed all the way to the edge of the paper. Bleed is the term used for the area that extends beyond the edge of the printed page, and it ensures that no white edges show up on the final trimmed page.

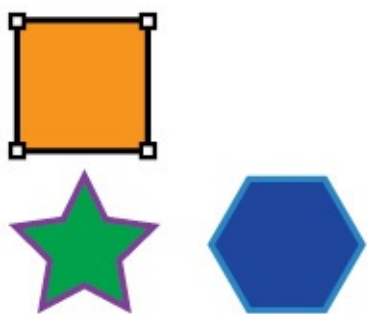
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● **Note:** You could have set up the bleeds when you first set up the document in the New Document dialog box by choosing File > New.

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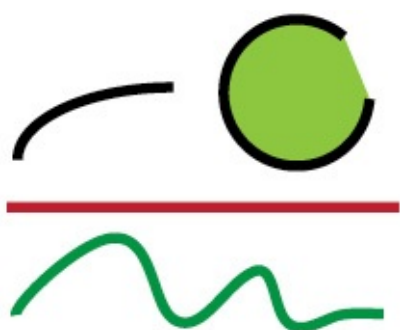
## Working with basic shapes

In the first part of this lesson, you'll create a series of basic shapes, such as rectangles, ellipses, rounded rectangles, polygons, and more. Shapes you create are composed of *anchor points* with paths connecting the anchor points. A basic square, for instance, is composed of four anchor points on the corners with paths connecting the anchor points (see the figure at right). A shape is referred to as a *closed path*.



## Examples of Closed Paths

A path can be closed, or it can be open with distinct anchor points on each end, called *end points* (see the figure at right). Both open and closed paths can have fills applied to them.




## Examples of open paths

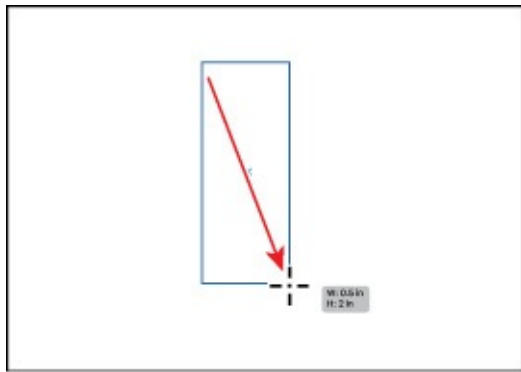
You'll begin this exercise by setting up the workspace.

1. Choose Window > Workspace > Essentials (if it's not already selected) and then choose Window > Workspace > Reset Essentials.
2. Choose 2 from the Artboard Navigation menu below the lower-left corner of the Document window.
3. Choose View > Fit Artboard In Window.

## Creating and editing rectangles

You'll start this lesson by creating a few rectangles. All of the shape tools, except for the Star tool and Flare tool, create Live Shapes. *Live Shapes* have attributes such as width, height, rotation, and corner radius that are editable later, without having to switch from the drawing tool, and are retained even if you scale or rotate the shape.

1. Select the Rectangle tool () in the Tools panel. Move the pointer near the center of the artboard. Press the mouse button and drag down and to the right. Drag until the rectangle is approximately 0.5 inches wide and has a height of 2 inches, as shown in the gray tooltip next to the cursor.



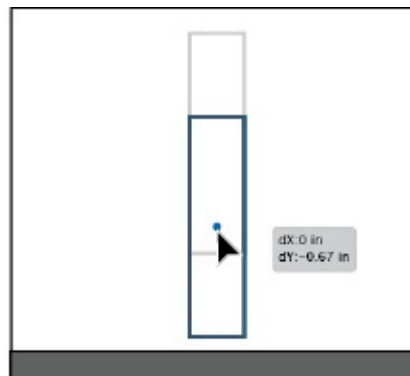
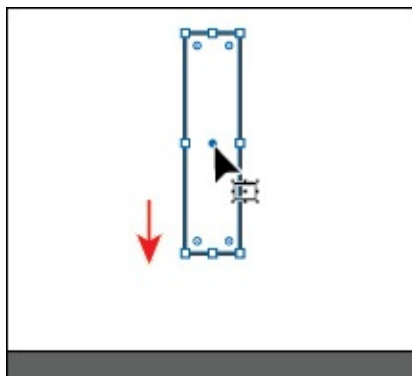

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► **Tip:** Holding down Option (macOS) or Alt (Windows) as you drag with the Rectangle, Rounded Rectangle, or Ellipse tool draws a shape from its center point.

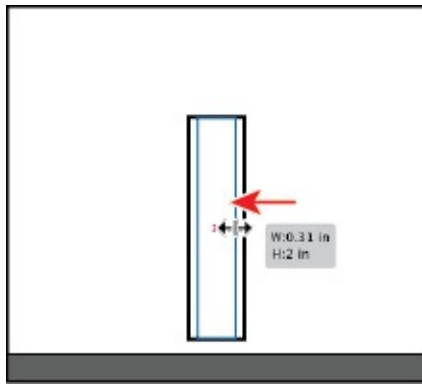
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As you drag to create shapes, the tooltip that appears next to the pointer is called the *measurement label* and is part of Smart Guides (View > Smart Guides), which will be discussed throughout this lesson. By default, shapes are filled with a white color and have a black stroke (border). Using any of the shape tools, you can either draw a shape or click the artboard with a shape tool selected to enter values in a dialog box.

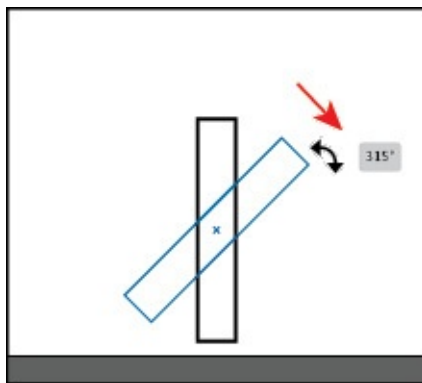
2. With the rectangle selected, move the pointer over the small blue dot in the center of the rectangle (called the *center point widget*). When the pointer changes (↖), drag the shape into the bottom half of the artboard.



3. Begin dragging the right-middle bounding point of the rectangle to the left to make it narrower. As you drag, press the Option (macOS) or Alt (Windows) key to resize the left and right sides together. When you see a width of approximately 0.3 in the measurement label, release the mouse button and then the key.



4. Move the pointer just off of a corner on the shape. When you see rotate arrows (↻), press and drag clockwise to rotate the shape. As you drag, press the Shift key to constrain the rotation to 45 degrees. When an angle of 315 shows in the measurement label, release the mouse button and then the key. Leave the shape selected.

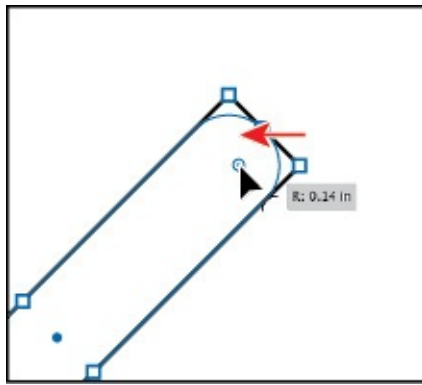


## Rounding corners

Rounding the corners of a rectangle can be done using several methods. In this section, you'll learn a few ways to round the corners of rectangles you've already created.

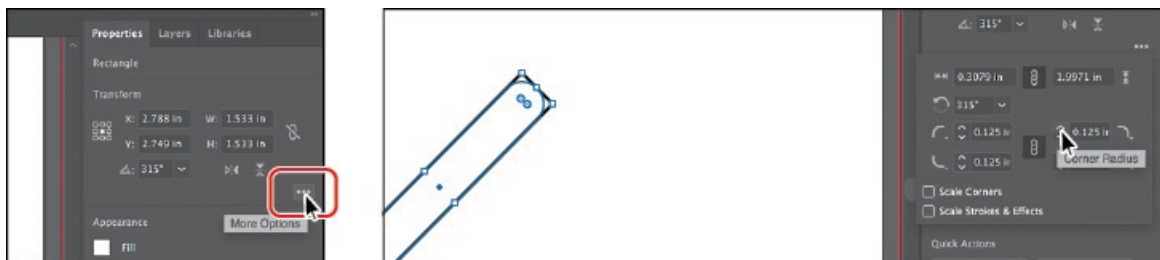
1. With the shape still selected, choose View > Zoom In a few times.
2. Select the Selection tool (►) in the Tools panel, and drag any of the corner widgets (⦿) in the rectangle toward the center of the rectangle to change the corner radius for all corners without worrying about how much right now.





● **Note:** If you drag a corner widget far enough, a red arc appears indicating you've reached the maximum corner radius.

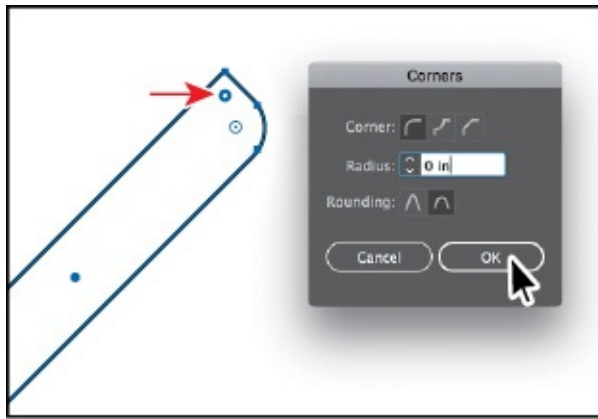
3. In the Properties panel to the right, click More Options (⋮) in the Transform section to show a panel with more options. Ensure that Link Corner Radius Values is on (🔒), and change any of the Radius values to **0.125**. If necessary, click in another field or press the Tab key to see the change to all corners.



▶ **Tip:** You can Option-click (macOS) or Alt-click (Windows) a corner widget in a shape to cycle through the different corner types.

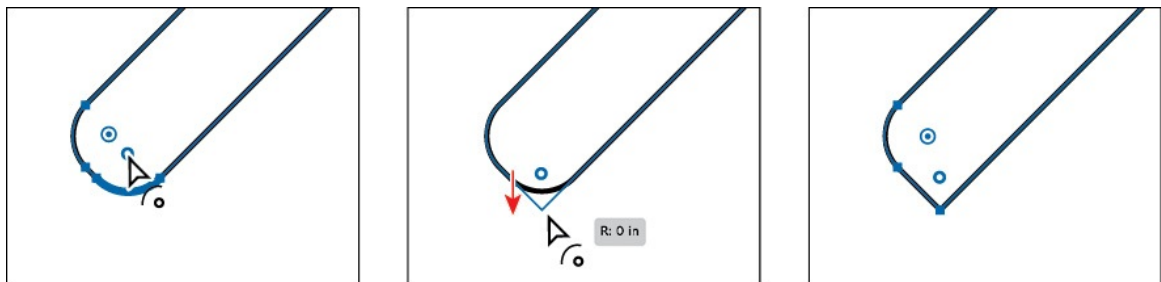
● **Note:** You can press the Escape key to hide the panel before moving on.

4. Select the Direct Selection tool (⬚). With the shape still selected, double-click the top-corner widget (🎯). In the Corners dialog box, change the radius to **0** (zero), and click OK.



Notice that only that one corner changed. The Corners dialog box allows you to edit the corner type and radius, but it also has an extra option called Rounding for setting absolute versus relative rounding. Absolute means the rounded corner is exactly the radius value. Relative makes the radius value based on the angle of the corner point.

5. Click the bottom-corner widget (🎯) to select just that one corner widget. See the first part of the following figure.
6. Drag the bottom-corner widget (🎯) away from the center of the shape, until you see 0 in the measurement label. You will need to drag past the corner point.



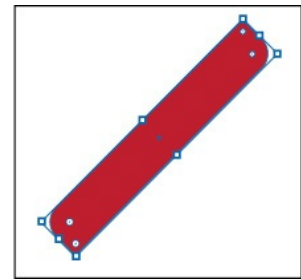
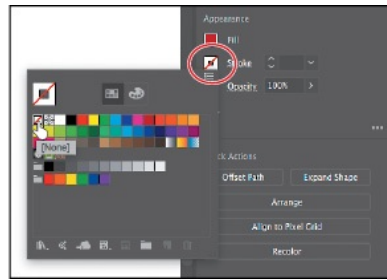
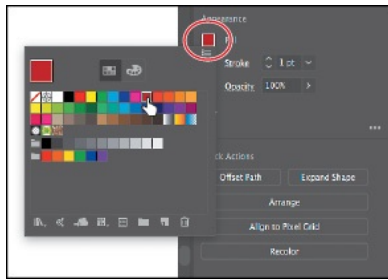
7. Select the Selection tool (🖱️) in the Tools panel. Click the Fill color box in the Properties panel, and make sure that the Swatches option (🎨) is selected in the panel that appears. Select a darker red color to fill the rectangle with red.

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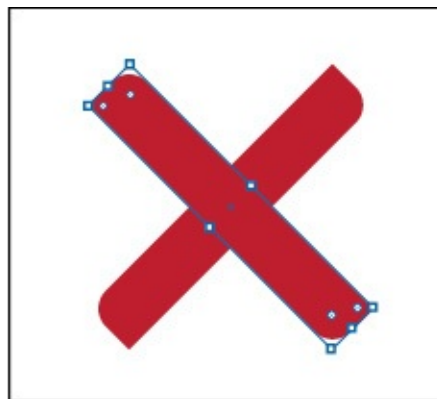
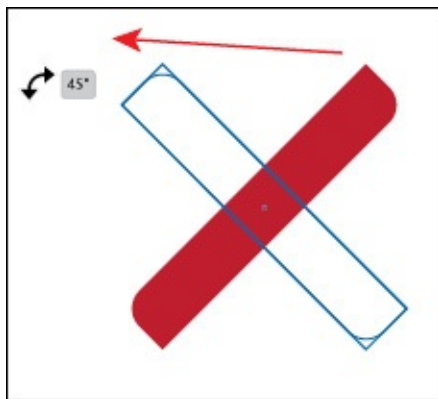
● **Note:** You can press the Escape key to hide the panel before moving on.

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8. Click the Stroke color box in the Properties panel, make sure that the Swatches option (🎨) is selected, and select None to remove the stroke from the rectangle.

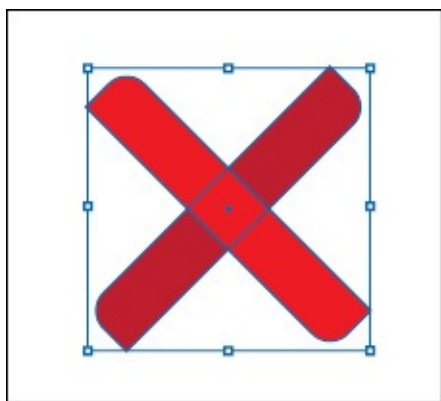


9. Choose Edit > Copy and then choose Edit > Paste In Front to paste a copy of the rectangle right on top of the original.
0. Move the pointer just off of a corner on the shape. When you see rotate arrows (↺↻), drag counterclockwise to rotate the shape. As you drag, press the Shift key to constrain the rotation to 45 degrees. When an angle of 45 shows in the measurement label, release the mouse button and then the key.



1. Click the Fill color box in the Properties panel, and make sure that the Swatches option (📁) is selected in the panel that appears. Select a lighter red color to fill the rectangle with red.
2. Choose Select > All On Active Artboard to select both shapes. Click the Group button in the Quick Actions section of the Properties panel to the right of the document.

Grouping treats content like a single object which makes it easier to move the currently selected artwork. You'll group other content you create going forward for the same reason.



3. Choose Select > Deselect.

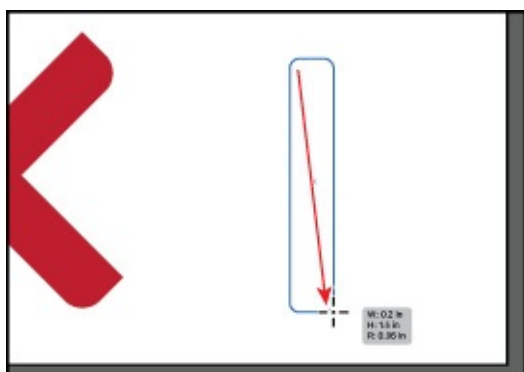
## Working with the Rounded Rectangle tool

Next, you'll create a rounded corner rectangle using the Rounded Rectangle tool. Rounded rectangles are also Live Shapes, which means you can edit properties such as the corner radius after the fact. Next, you'll create a shape for the mast of a boat.

1. Choose View > Zoom Out.
2. Click and hold down the mouse button on the Rectangle tool (▢) in the Tools panel, and select the Rounded Rectangle tool (▣).

For the next step, don't release the mouse button until told to do so.


3. To the right of the rectangles on the artboard, click and drag to make a rectangle with a width of 0.2 inches and a height of 1.5 inches in the measurement label, but *do not release the mouse button yet*. With the mouse button still held down, press the Down Arrow key several times to see the corner radius become less rounded. Press the Up Arrow key several times to see the corner become more rounded. No matter how rounded the corners are, release the mouse button.

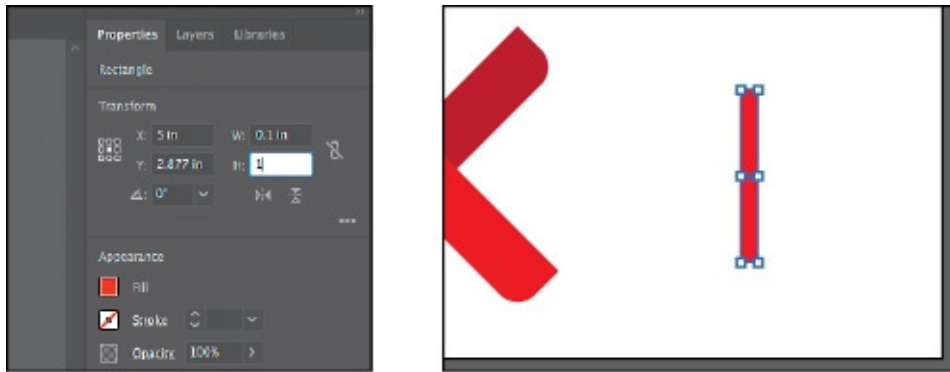



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► **Tip:** When drawing with the Rounded Rectangle tool, pressing the left arrow key will change the corner radius to 0 (zero), and pressing the right arrow key will set the rounded corner radius at the maximum value




for the shape.

4. In the Properties panel to the right, make sure Constrain Width And Height Proportions to the right of Width (W:) and Height (H:) is deselected (it looks like this: ). Select the Width (W:) value and change it to **0.1**. Click in the Height (H:) field, and change the value to **1**. Press Return or Enter. Leave the shape selected.

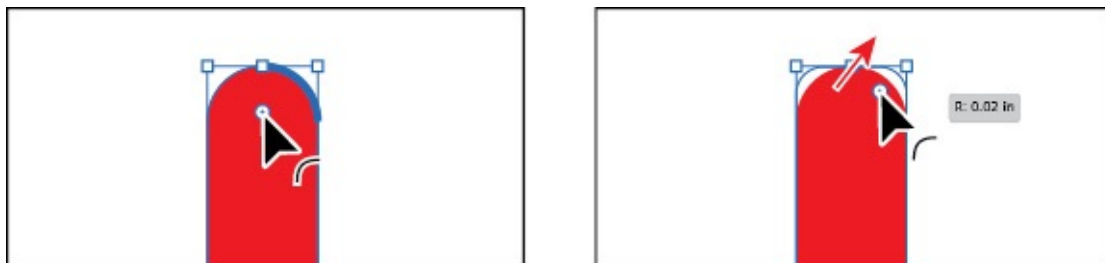



Typing **in** for inches isn't necessary; it is added automatically.



● **Note:** You'll learn a lot more about general transformations in [Lesson 5, "Transforming Artwork."](#)

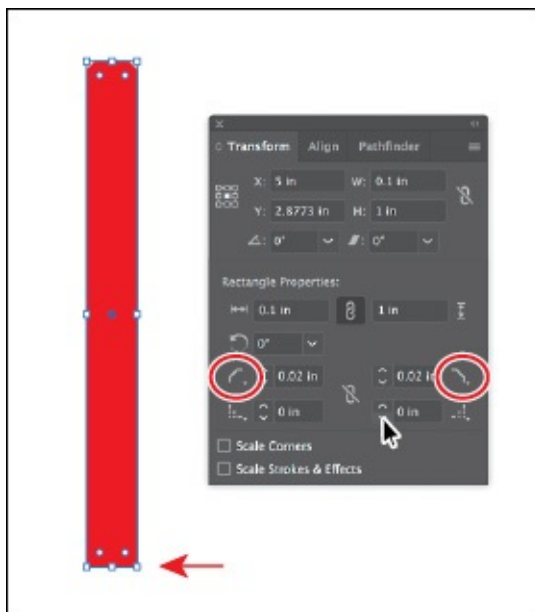
5. Select the Zoom tool () in the Tools panel on the left. Drag across the top part of the selected rounded rectangle to zoom in closely.
6. Select the Selection tool () and, with the rounded rectangle selected, drag any of the corner widgets () toward the top of the shape until the measurement label shows a value of 0.02 in.

● **Note:** Zoom in closer if you don't see the corner widgets after selecting the Selection tool.

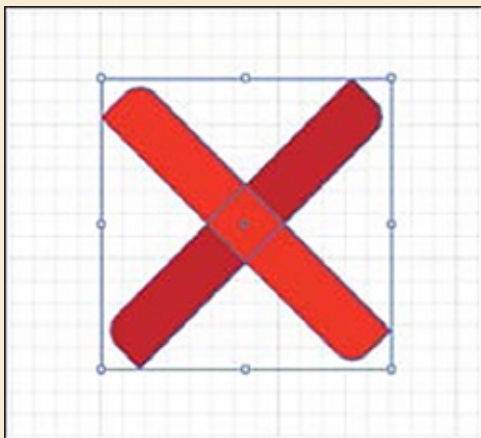


7. Double-click one of the corner widgets () to open the Transform panel. The Transform panel will open, and you should now see corner options. Select Chamfer for the corner type for *the top two corners only* (circled in the following figure).
8. Choose View > Zoom Out until you see the bottom of the shape.

9. Deselect Link Corner Radius Values (so it looks like this ) to change the corners independently. Change the bottom-left and bottom-right corners to 0.
0. Click the X at the top of the Transform panel group to close it.
1. Click the Fill color box in the Properties panel, and make sure that the Swatches option () is selected in the panel that appears. Select a brown color.
2. Choose Select > Deselect.



## Working with the document grid



The document grid allows you to work more precisely by creating a series of nonprinting horizontal and vertical guides behind your artwork in the Document window that objects can snap to. To turn the grid on and use its features, do the following:

- To show the grid or hide the grid, choose View > Show Grid/Hide

## Grid.

- To snap objects to the gridlines, choose View > Snap To Grid, select the object you want to move, and drag it to the desired location. When the object's boundaries come within 2 pixels of a gridline, it snaps to the point.
- To specify grid properties such as the spacing between gridlines, grid style (lines or dots), grid color, or whether grids appear in the front or back of artwork, choose Illustrator CC > Preferences > Guides & Grid (macOS) or Edit > Preferences > Guides & Grid (Windows).

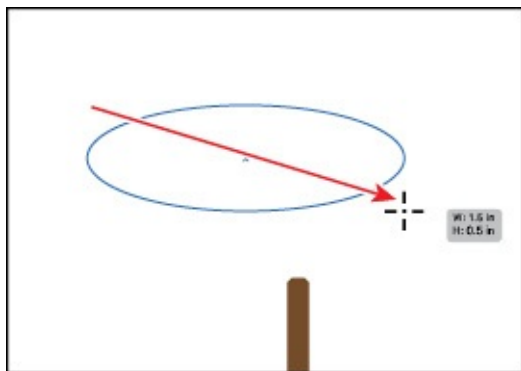
—From Illustrator Help

## Creating and editing ellipses

Next, you'll draw and edit an ellipse with the Ellipse tool (○) to continue creating a boat. The Ellipse tool can be used to create ellipses and circles.

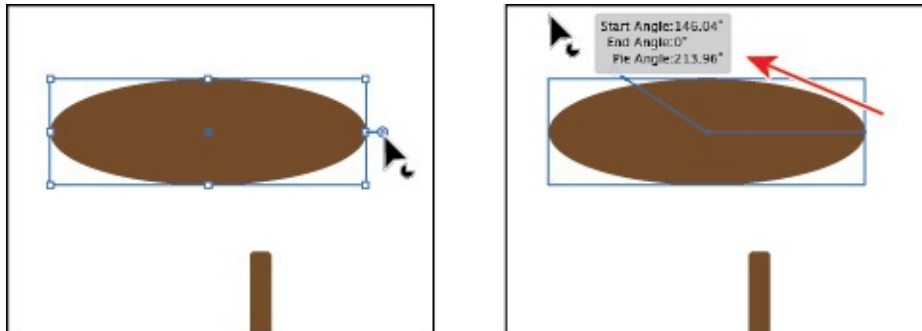
1. Choose View > Zoom Out a few times.
2. Click and hold down the mouse button on the Rounded Rectangle tool (□) in the Tools panel, and select the Ellipse tool (○).
3. Move the pointer above the brown rectangle. Click and drag to make an ellipse that has a width of 1.5 inches and a height of 0.5 inches.

After creating an ellipse, with the Ellipse tool still selected, you can drag the shape from the center widget, transform the shape, and also change the pie angle. Next, you'll create a copy of the ellipse to use later.



4. Select the Selection tool (⬮) in the Tools panel. Choose Edit > Copy and then Edit > Paste to paste a copy of the circle you will use later in the lesson. Drag it into a blank area of the artboard, out of the way.
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5. **Tip:** To reset a pie shape back to an ellipse, double-click either pie widget.
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Click to select the original ellipse. Drag the pie widget (⦿) off the right side of the ellipse, counterclockwise around the top of the ellipse.



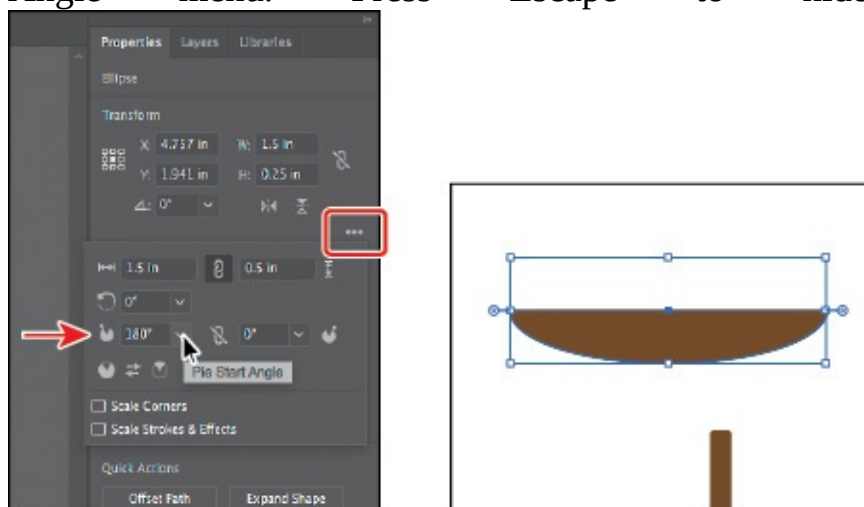
Dragging this widget allows you to create a pie shape. After dragging the widget initially and releasing the mouse button, you will then see a second widget. The widget you dragged controls the start angle. The widget that now appears on the right side of the ellipse controls the end angle.

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● **Note:** You can also change ellipse properties like pie angle with the Ellipse tool still selected.

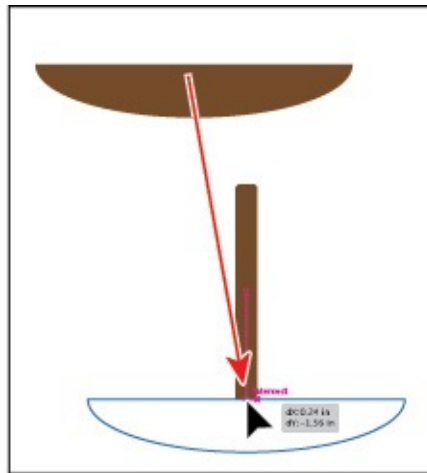
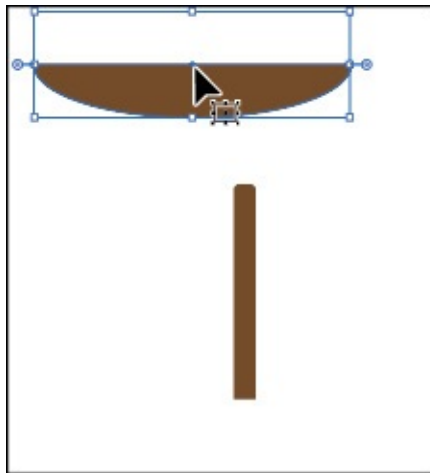
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6. In the Properties panel to the right, click More Options (⋮) in the Transform section to show more options. Choose 180° from the Pie Start Angle menu. Press Escape to hide the panel.



7. Move the pointer over what was the center of the ellipse, and drag the ellipse so it snaps to the bottom edge of the brown rectangle. The word “intersect” will most likely appear when it is snapped.





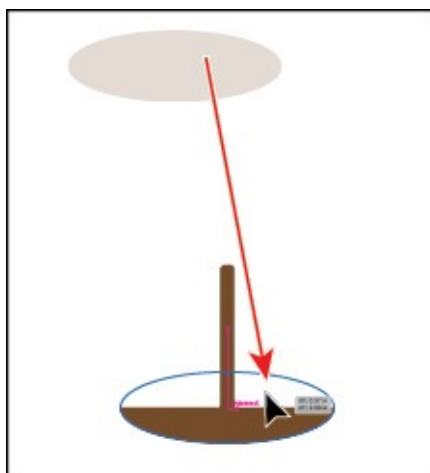
A vertical magenta guide will also show in the center of the brown rectangle to ensure that the ellipse is center-aligned horizontally with the rectangle.

8. Choose Select > Deselect and then choose File > Save.

## Changing stroke width and alignment

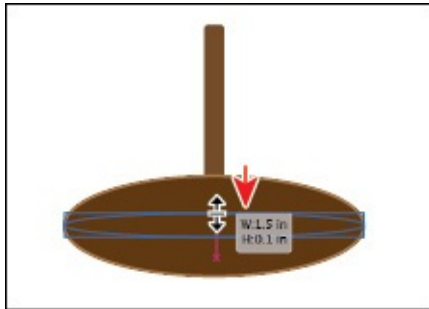
So far in this lesson, you've mostly edited the fill of shapes but haven't done too much with the strokes (a visible outline or border of an object or path). You can easily change the color of a stroke or the weight of a stroke to make it thinner or thicker, which is what you'll do next.


1. With the Selection tool (▢) selected, click the copy of the brown ellipse you made in the last section to select it.




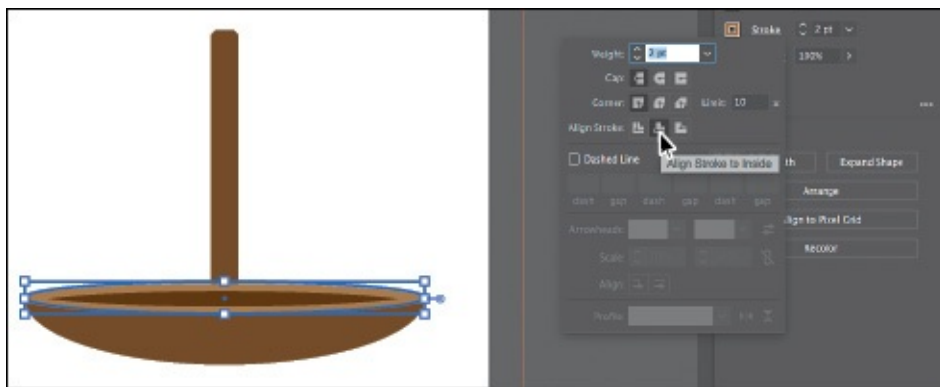
2. Drag it on top of the half ellipse. Magenta smart guides will appear when it's aligned in the center of the half-ellipse.
3. Change the fill color to a darker brown and the stroke color to a lighter brown in the Properties panel.
4. Drag the top-middle point of the ellipse down. As you drag, press the

Option key (macOS) or Alt key (Windows) to resize both sides at the same time. When you see a height of 0.1 inch, release the mouse button and then the key.



5. Click the word “Stroke” in the Properties panel to open the Stroke panel. In the Stroke panel, change the stroke weight of the selected rectangle to 2. Click the Align Stroke To Inside button (  ) to align the stroke to the inside edge of the ellipse.

● **Note:** You can also open the Stroke panel by choosing Window > Stroke, but you may need to choose Show Options from the panel menu (  ).



● **Note:** You may notice in the selected artwork that you only see the corner points of the bounding box. It depends on the zoom level of your document.

6. Click the brown rectangle and then click the Arrange button in the Properties panel and choose Bring To Front so the rectangle is on top of the ellipses.

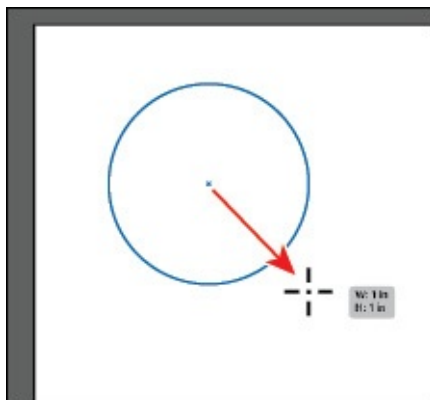


7. Choose Select > Deselect.

## Creating and editing a circle

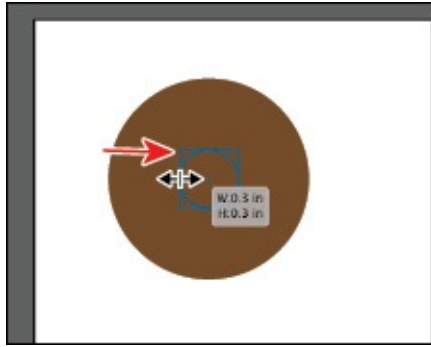
Next, you'll draw and edit a perfect circle with the Ellipse tool (○). Later in the lesson, you'll make a series of copies of the circle you create here for other artwork.

1. Choose View > Fit Artboard In Window to see the whole artboard.
2. Select the Ellipse tool (○), and move the pointer over a blank area in the upper-left corner of the artboard. Begin dragging down and to the right to begin drawing an ellipse. As you drag, press the Shift key to create a perfect circle. When the width and height are both roughly 1 inch, release the mouse button and then the Shift key.



Without switching to the Selection tool, you can reposition and modify an ellipse with the Ellipse tool, which is what you'll do next.

3. With the Ellipse tool selected, position the pointer over the left-middle bounding point of the circle. Click and drag toward the center to make it smaller. As you drag, press Shift+Option (macOS) or Shift+Alt (Windows). Drag until the measurement label shows a width and height of approximately 0.3 inches. Release the mouse button and then the keys.



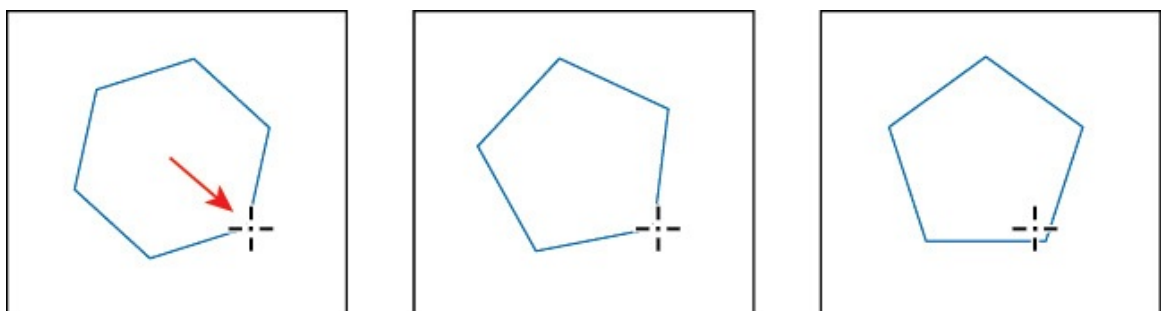
● **Note:** An ellipse is also a Live Shape like a rectangle or rounded rectangle.

4. With the circle selected, click the Fill color in the Properties panel and make sure that the Swatches option (📖) is selected in the panel that appears. Select a light gray color with a tooltip of “C=0 M=0 Y=0 K=10.”

## Creating polygons


Using the Polygon tool (⬡), you can create shapes with multiple straight sides. By default, the Polygon tool draws hexagons (a five-sided shape) and all shapes are drawn from the center. Polygons are also Live Shapes, which means attributes like size, rotation, number of sides, and more are still editable. Now you’ll create a triangle to make a diamond gem using the Polygon tool (⬡).

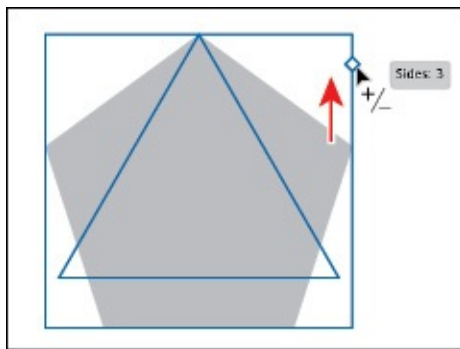
1. Click and hold down the mouse button on the Ellipse tool (○) in the Tools panel, and select the Polygon tool (⬡).
2. Choose View > Smart Guides to turn them off.
3. Move the pointer in a blank area of the artboard. Drag to the right to begin drawing a polygon, but *don’t release the mouse button yet*. Press the Down Arrow key once to reduce the number of sides on the polygon to five, and don’t release the mouse yet. Hold down the Shift key to straighten the shape. Release the mouse button and then the key. Leave the shape selected.



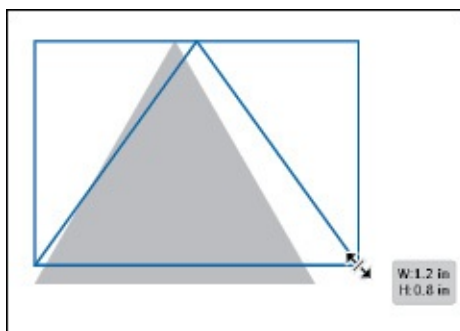
Notice that you didn’t see the gray measurement label (the tooltip) since

the tooltip is part of the Smart Guides that you turned off. The magenta alignment guides are also not showing since the shape is not snapping to other content on the artboard. Smart Guides can be useful in certain situations, such as when more precision is necessary, and can be toggled on and off when needed.

4. Click the Fill color box in the Properties panel, and make sure that the Swatches option (  ) is selected in the panel that appears. Select a light gray color with a tooltip of “C=0 M=0 Y=0 K=30.”
5. Choose View > Smart Guides to turn them back on.
6. With the Polygon tool still selected, drag the side widget on the right side of the bounding box to change the number of sides to three, making a triangle.



7. Drag a corner bounding point of the triangle until you see a width of 1.2 inches and a height of 0.8 inches in the measurement label.



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● **Note:** The figure may look different from what you see. Your starting shape may have been bigger or smaller, and that's okay. As long as the resulting size is 1.2 inches in width and 0.8 inches in height.

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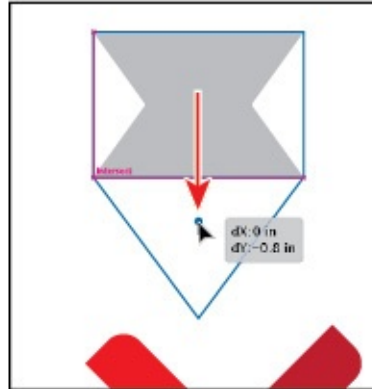
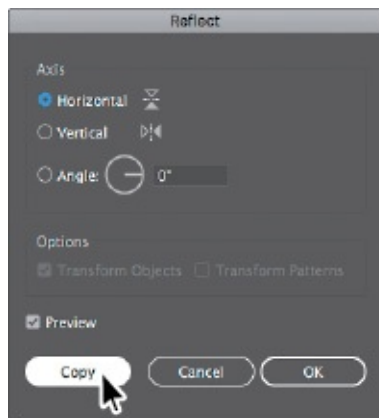
## Editing the polygons

Now, you'll make a copy of the polygon and create the rest of the diamond gem.

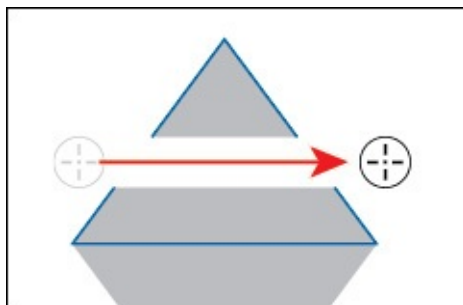
1. With the triangle still selected, choose Object > Transform > Reflect. In

the Reflect dialog box, select Horizontal, and click Copy.

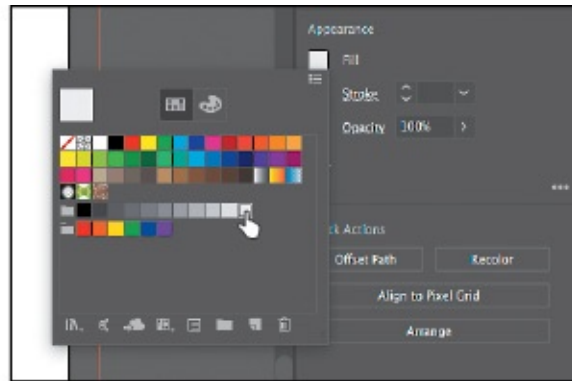
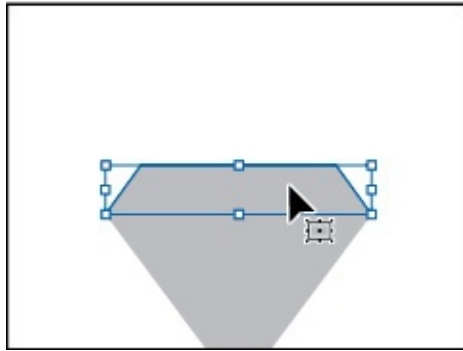
2. Drag the new (top) triangle from the center widget (the blue circle in the center) so its top edge snaps to the bottom edge of the original triangle.



3. Select the Selection tool (▸) in the Tools panel. Click the original (top) triangle.
4. Select the Eraser tool (◆) in the Tools panel. Pressing the Shift key, drag from left to right, across the middle of the triangle. Release the mouse button and then the key.

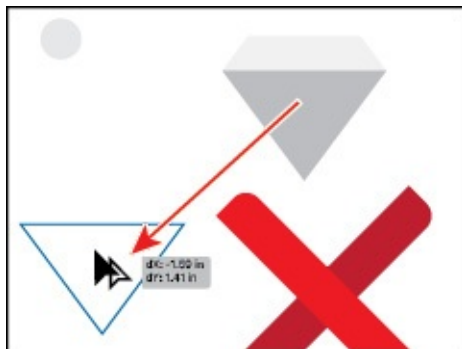


5. Select the Selection tool (▸) and click in a blank area to deselect the artwork. Click the smaller triangle on top and press Backspace or Delete to remove it.
6. Click to select the remaining part of the top triangle, and click the Fill color box in the Properties panel. Make sure that the Swatches option (■) is selected in the panel that appears, and select a lighter gray color with a tooltip of “C=0 M=0 Y=0 K=5.”

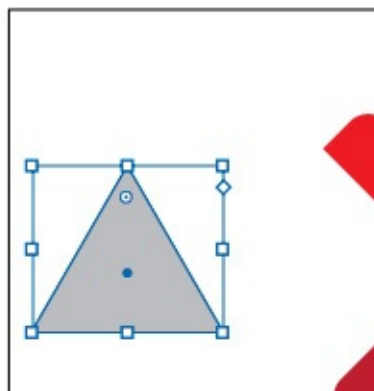
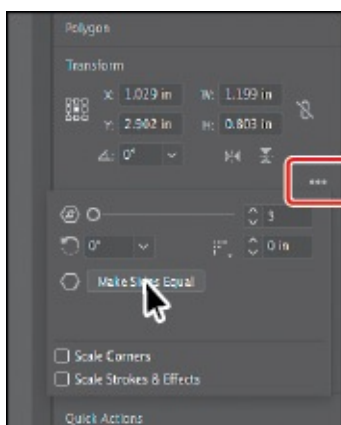


Next, you'll make a copy of the original triangle and make a mountain shape with a rounded corner top.

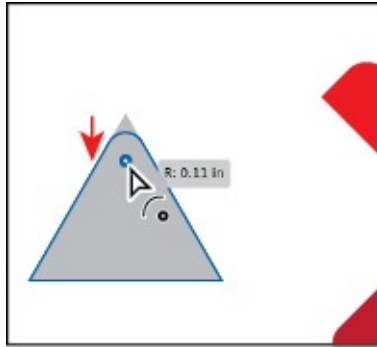
7. Click the darker gray triangle to select it. Option-drag (macOS) or Alt-drag (Windows) the triangle into the lower-left corner of the artboard to make a copy. Release the mouse button and then the key.



8. Click More Options (⋮) in the Transform section of the Properties panel to the right to show more options. To return the triangle to an equal-sided polygon, click the Make Sides Equal button.



9. Select the Direct Selection tool (⌘) in the Tools panel. Click the top-corner widget (⦿) of the selected triangle to select it.



0. Drag the top-corner widget toward the center of the shape to round the top corner a little.

## Creating a star

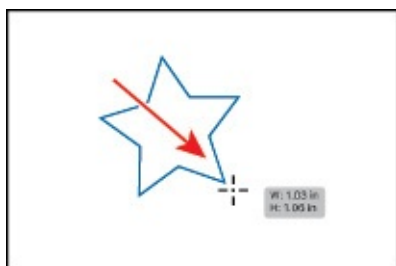
Next, you'll use the Star tool (☆) to create a few stars that will go on the diamond you just created. The Star tool currently doesn't create Live Shapes, which means editing the star after the fact can be more difficult. When drawing with the Star tool, you'll use keyboard modifiers to get the number of points you want and to change the radius of the arms of the star (the length of the arms). Here are the keyboard modifiers you'll use in this section when drawing the star and what each does:

- **Arrow keys:** Pressing the Up Arrow or Down Arrow keys adds or removes arms from the star, respectively, as you draw it.
- **Shift:** This straightens the star (constrains it).
- **Command (macOS) or Ctrl (Windows):** Pressing the key and dragging while creating a star allows you to change the radius of the arms of the star (make the arms longer or shorter).

Next, you'll create a star. This will take a few keyboard commands, so *don't release the mouse button* until you are told.

1. Click and hold down the mouse button on the Polygon tool (⬡) in the Tools panel, and select the Star tool (☆). Move the pointer somewhere on the artboard to the right of the triangle shapes that make up the diamond.
2. Click and drag slowly to the right to create a star shape. Notice that as you move the pointer, the star changes size and rotates freely. Drag until the measurement label shows a width of about 1 inch and then stop dragging. *Don't release the mouse button!*



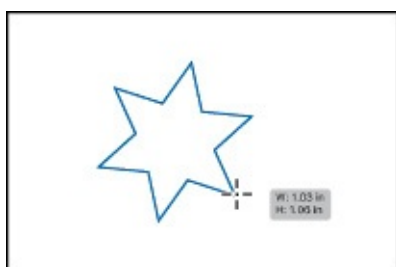


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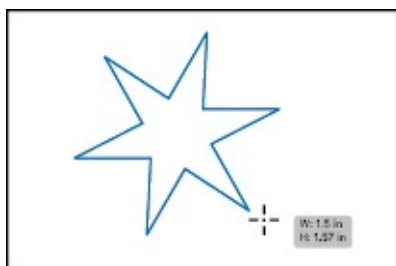
► **Tip:** You can also click in the Document window with the Star tool (☆) and edit the options in the Star dialog box instead of drawing it.

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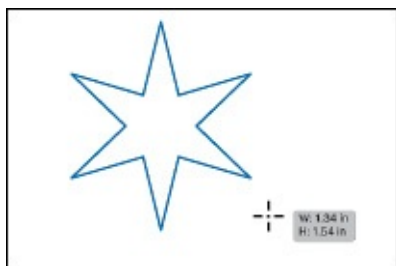
3. Press the Up Arrow key once to increase the number of points on the star to six. *Don't release the mouse button!*



4. Press Command (macOS) or Ctrl (Windows), and continue dragging to the right a little. This keeps the inner radius constant, making the arms longer. Drag until you see a width of approximately 1.5 inches, and stop dragging, without releasing the mouse button. Release Command or Ctrl but *not the mouse button*.



5. Hold down the Shift key. When the star straightens out, release the mouse button and then the Shift key.



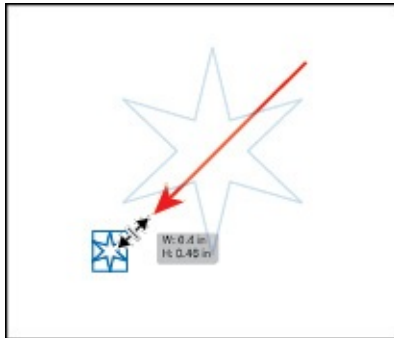
6. Change the stroke weight of the star to **0** in the Properties panel.
- 

► **Tip:** If the stroke color is None (☒), then you don't need to set the

stroke weight.

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7. Change the fill color in the Properties panel to white.
8. Select the Selection tool (▢), press the Shift key, and drag a corner of star bounding box toward the center. When the star has a width of approximately 0.4 inches, release the mouse button and then the key.
9. Select the Star tool (☆), and draw one more star, a little smaller than the first.

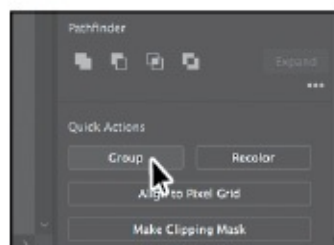
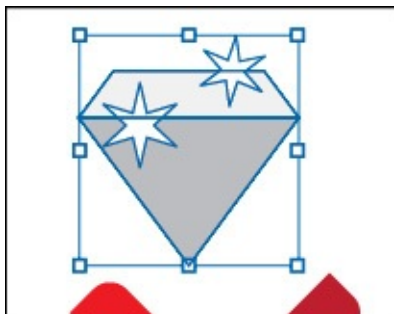


Notice that the new stars have the same basic settings as the first star you drew.

0. Select the Selection tool (▢), and drag the stars on top of the shapes that make up the diamond.

They may be difficult to see since they have a white fill and are on a white artboard. In this case, you could choose View > Outline to more easily see them. Then, after you are finished dragging the shapes by their edges, choose View > GPU Preview (or Preview On CPU if GPU Preview is not supported).

1. Drag across the triangle and star shapes to select them all, and then click the Group button in the Properties panel to group them together.

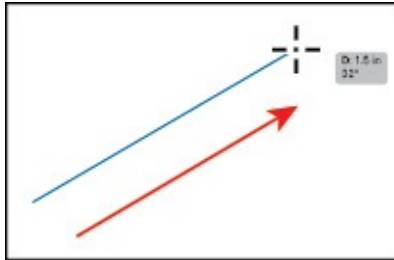


## Drawing lines

Next, you'll create lines and line segments, known as *open paths*, with the Line Segment tool to create a few bones. Lines created with the Line Segment

tool are Live Lines, and similar to Live Shapes, they have many editable attributes.

1. Select the Line Segment tool (↖) in the Tools panel. On the right side of the artboard, above the existing artwork, click and drag to the right. Notice the length and angle in the measurement label next to the pointer as you drag. Drag until the line is around 1.5 inches in length.



2. With the new line selected, position the pointer just off the right end. When the pointer changes to a rotate arrow (↻), click and drag (up or down) until you see an angle of 0 (zero) in the measurement label next to the pointer. That will make the line horizontal.



Lines rotate around their center point by default. The angle of the line can also be changed in the Properties panel.

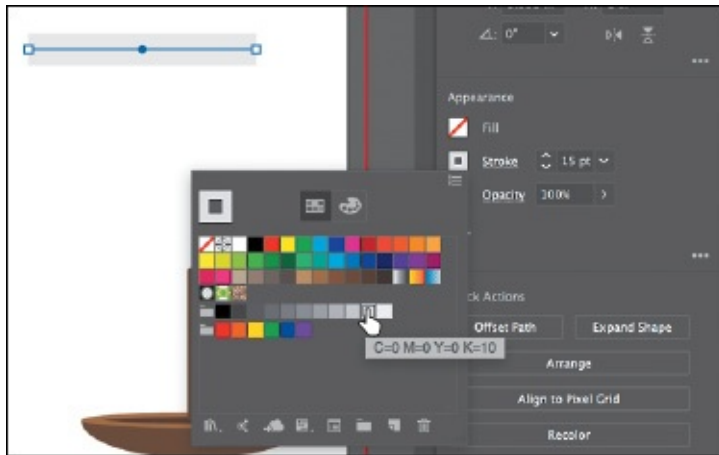
3. With the line selected, change the stroke weight to **15 pt** in the Properties panel to the right of the document.

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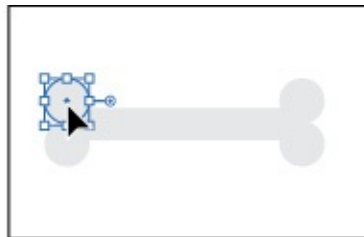
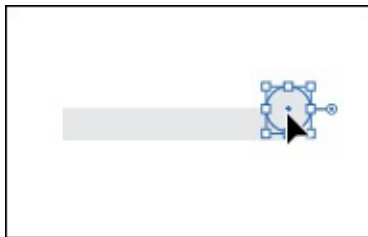
● **Note:** If you drag a line in the same trajectory as the original path, you will see the words “Line Extension” and “on” appear at opposite ends of the line. These are part of Smart Guides and make it easy to drag a line longer or shorter without changing the angle.

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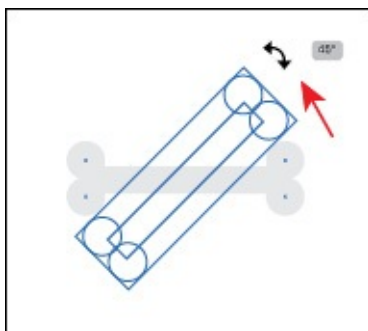
4. Click the Stroke color box in the Properties panel, and make sure that the Swatches option (📖) is selected in the panel that appears. Select a lighter gray color with a tooltip of “C=0 M=0 Y=0 K=10.”



5. Choose Object > Path > Outline Stroke. The line is now a shape with a fill.
6. Select the Selection tool (▸) in the Tools panel, and drag the gray circle in the upper-left corner of the artboard over to the shape.
7. Choose Edit > Copy. Choose Edit > Paste three times to create a total of four circles. Drag the circles onto the shape like you see in the figure to make a bone.



8. Drag across the bone artwork and click the Group button in the Properties panel to keep the artwork together.
9. Move the pointer just off a corner. When the pointer changes to rotate arrows (↺↻), drag counterclockwise to rotate it until you see approximately 45 degrees in the measurement label.



0. Choose Object > Transform > Reflect. In the Reflect dialog box, select Vertical, and click Copy.