



## Compound Path

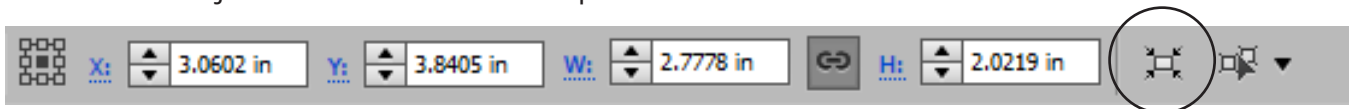
A compound path contains two or more paths that are painted so that holes appear where paths overlap. When you define objects as a compound path, all objects in the compound path take on the paint and style attributes of the bottom most object in the stacking order.

### Creating A Compound Path

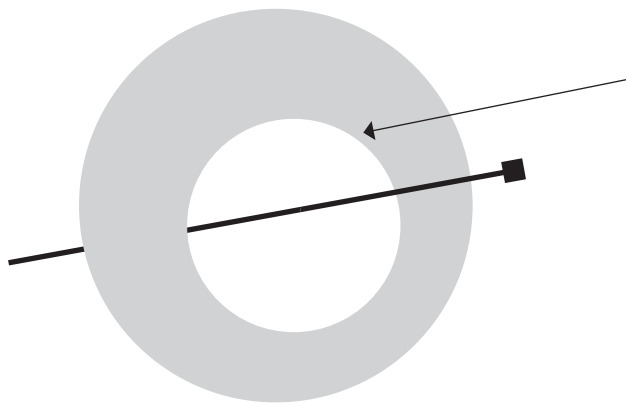
Select the object to use as a hole, and position it so that it overlaps the object to cut.

1. Select all the objects you want to include in the compound path.
2. Choose Object > Compound Path > Make (Ctrl+ 8)
3. To release a compound path, go to Object > Compound Path > Release

No matter how many components make up a compound path they all act as one unit. If you try to select separate paths that make up the compound with Selection tool the whole compound path will be selected. However, you can select and move component paths with Group Selection tool (you have to click directly on path not on fill) and edit paths with Direct Selection tool. Another way to select and move component paths is by double-click the compound shape to enter the Isolation Mode. Or, with the objects selected, click the "Select Isolated Object" button at the Control panel



You cannot view individual components of compound paths in the Layers palette, or give the components their own appearance attributes (such as fill or style). All components in the compound path take on the appearance attributes of the bottommost object in the stacking order.



After a compound path is made, you can still modify the inner shape by first selecting it.

With the Direct Selection tool selected, hold down the Alt key and click on the path of the inner shape. Without holding down the Alt key, only a segment of the inner shape will be selected.

Right after the inner shape is selected, switch to the Selection tool by pressing the "V" key. Now, you can modify the shape or even duplicate the shape.



1. Draw a rectangle and type the letter A in upper case.
2. Select the letter A, right-click and choose Create Outlines.
3. Move the letter A over the black rectangle, then go to Object > Compound Path > Make.
4. Double-click of the combined shape to enter Isolation mode to edit either one of the shape.



## Pathfinder

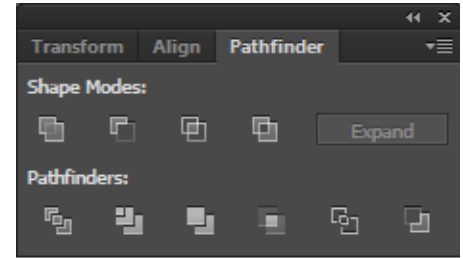
Illustrator Pathfinder is capable of manipulating shapes and paths that you can use to speed up your workflow. Mastering the tool is important as it lets you create complex shapes very easily. In this guide, we will go over the basics of the tool to help you pick up skills that you can use to create precise shapes and paths in your illustrations and speed up your workflow.

To access the Pathfinder Tool, go to Window > Pathfinder. Alternatively, you can also press Shift + Ctrl + F9 to access the tool.

### Shape Modes in Pathfinder Tool

The tools used to edit shapes are located in the top row of the Pathfinder menu.

- Add to Shape Area / Unite: You can use this option to add areas of selected components with the geometry.
- Subtract from Shape Area / Minus Front: This option helps you cut out the shape of a component from the geometry behind it.
- Intersect Shape Areas: You can use selected areas of a component to clip the geometry similar to a mask tool.
- Exclude: You can use this option to invert the geometry. The option lets you turn holes into filled regions and vice-versa.

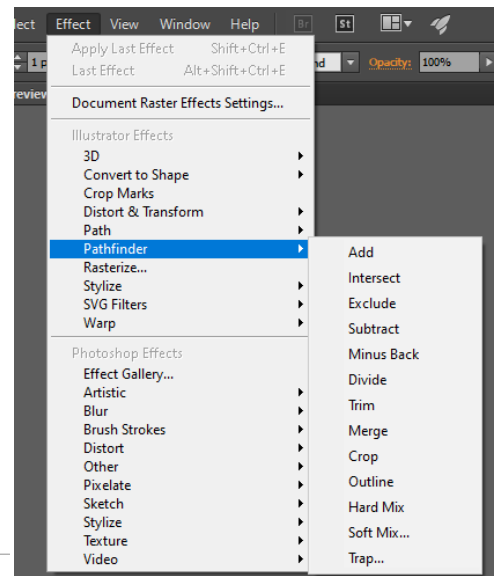


*Note: All the shapes created using the Pathfinder Tool is final. You can't edit them any more. If you'll like to edit the shapes after the Pathfinder Tool is applied, choose the buttons while holding down the Alt key, this will create a editable compound shape.*

### Applying Effects in Pathfinder

If you want to use your overlapping objects to create new shapes, the Pathfinder tool lets you do that. You can make use of the Pathfinder Panel or the Effects menu to get access to all the effects.

The effects available from the Effect Menu can only be applied to layers, text objects or groups. Once you apply an effect, you will still be able to select your original objects and edit them. You can also make use of the Appearance panel to remove or modify any effect you want.



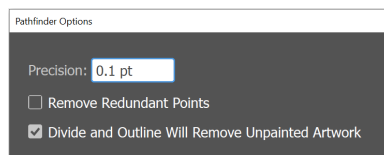
### Pathfinder Submenu

The Pathfinder Submenu is providing some very interesting tools which is often overlooked.

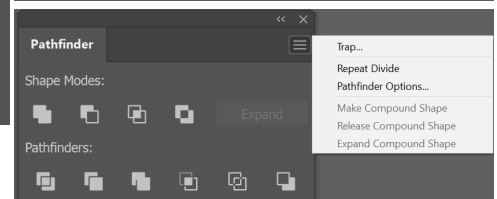
**Trap:** this is mainly for printing purposes. It provides a "Spread & Chok" function for printing multiple colors.

**Repeat:** This repeats the last pathfinder action. Hotkey is Ctrl + 4.

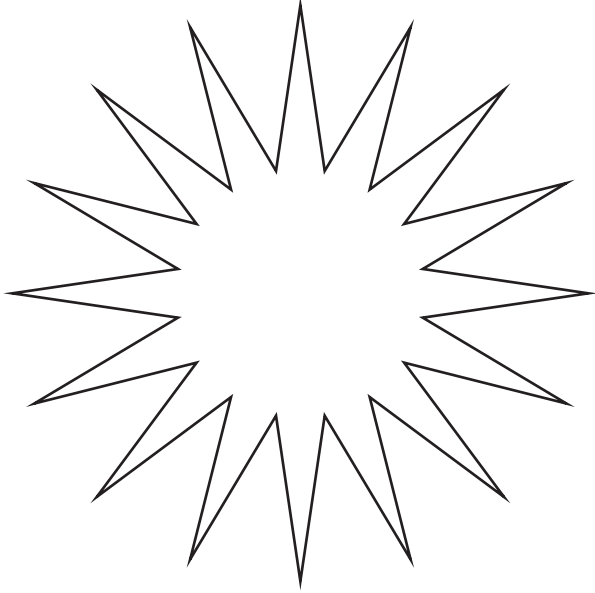
Pathfinder Options has 2 options, and you can set either one of them as default.



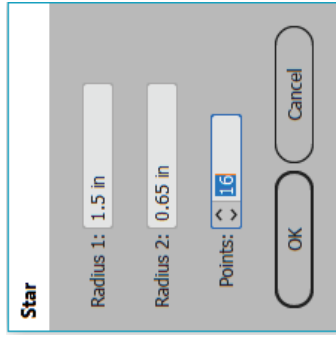
Make Compound Shape works just like the normal Make Compound Shape function if you have shapes selected. But it can turn any piece of type into a compound shape so it can be filled with gradient color.



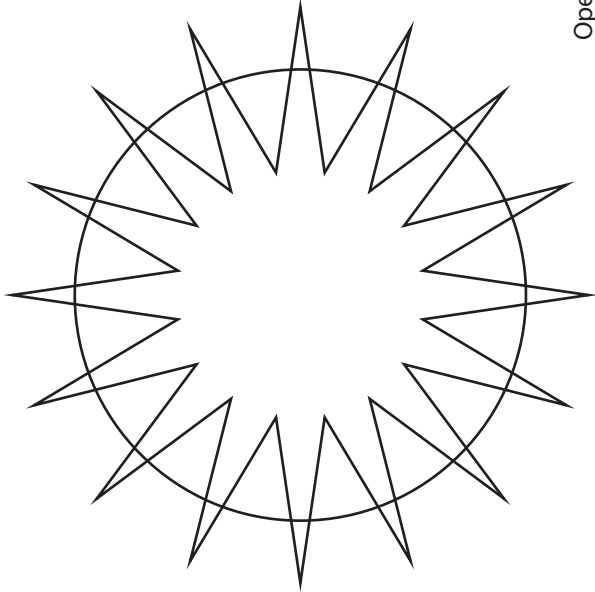
# Using Pathfinder to draw a Gear



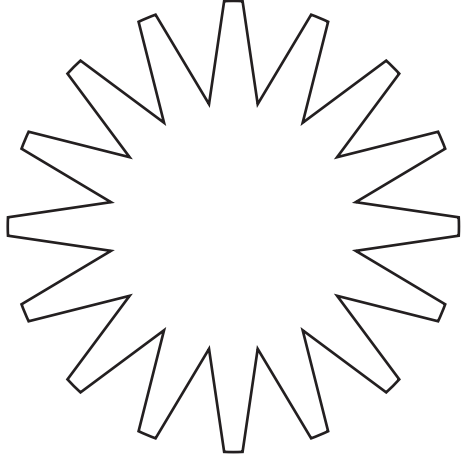
Select the Star tool, click once inside the artboard. Put in the following numbers.



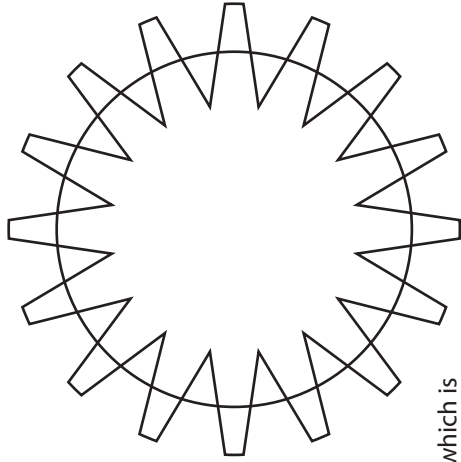
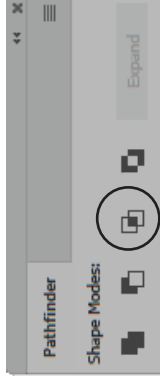
Draw another circle, which is 1.85" in diameter.



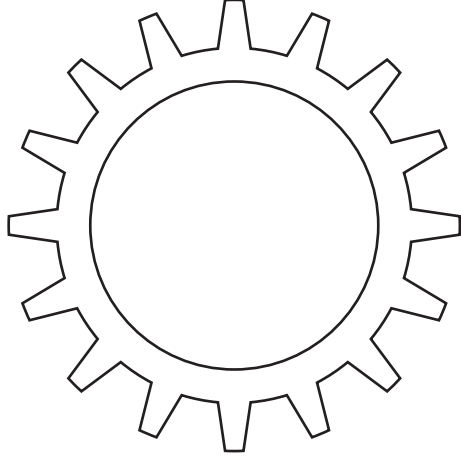
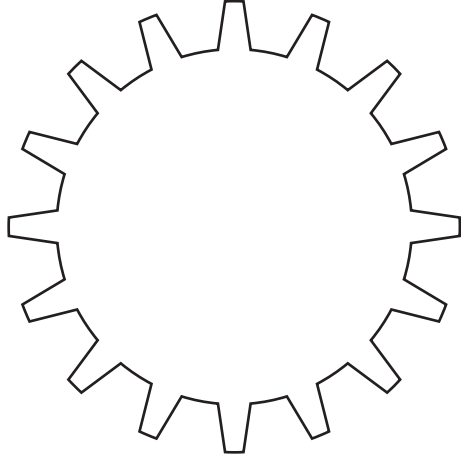
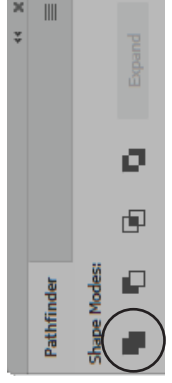
Holding down the Shift + Alt keys, draw a circle from the center of the star. The circle is 2.35" in diameter.



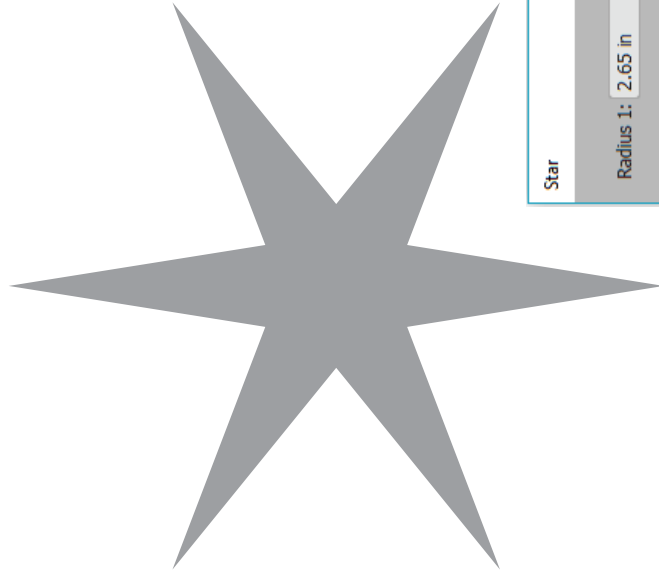
Open up the Pathfinder panel, select both the star and the circle, click the Intersect icon.



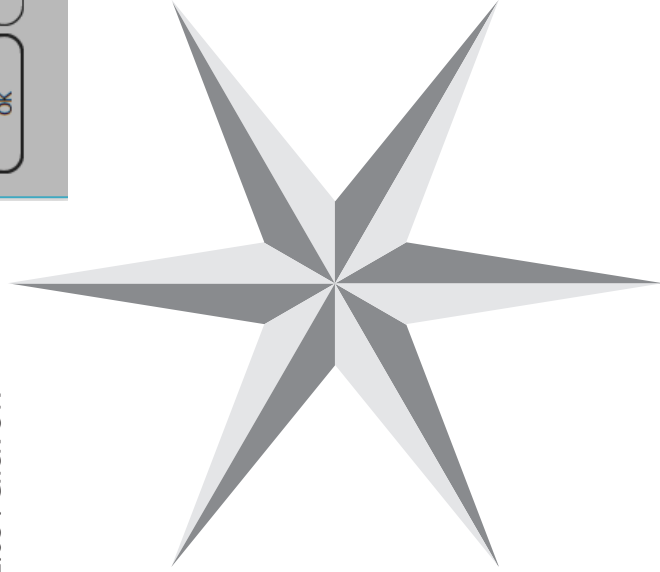
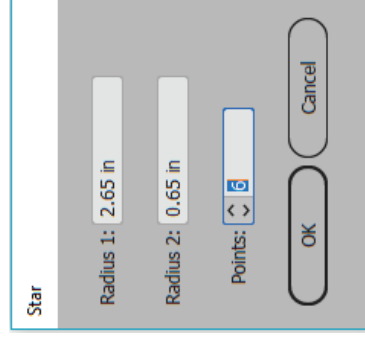
Select both shapes, click once on the Unite icon.



To finish off the gear, draw another circle, which is 1.5" in diameter.



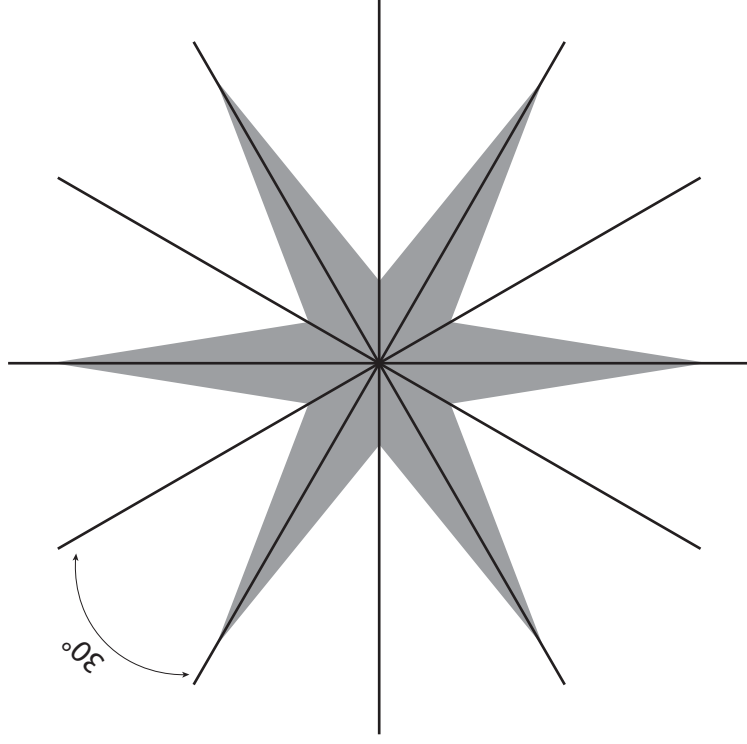
Use the star tool to draw a 6 point star, with the following: Radius 1=0.65", Radius 2=2.65". Click OK



Ungroup the divided star.

Holding down the Shift key, select every alternating shape of the star (the darker or lighter shapes). Assign a color.

With the shapes still selected, go to Select > Inverse, this will select the rest of the star, assign another color.



Draw a line taller than the star, align to the center of the star. Select the Rotate tool, rotate the line 30° 5 times. Select all, open up the Pathfinder panel, select Divide.