

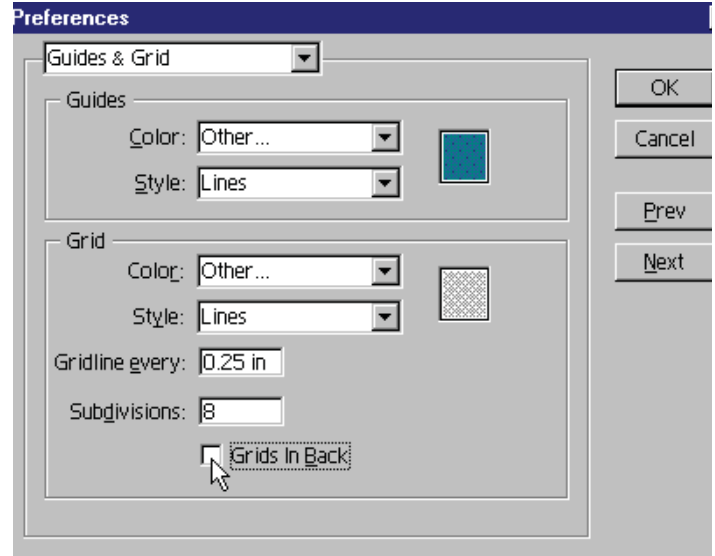
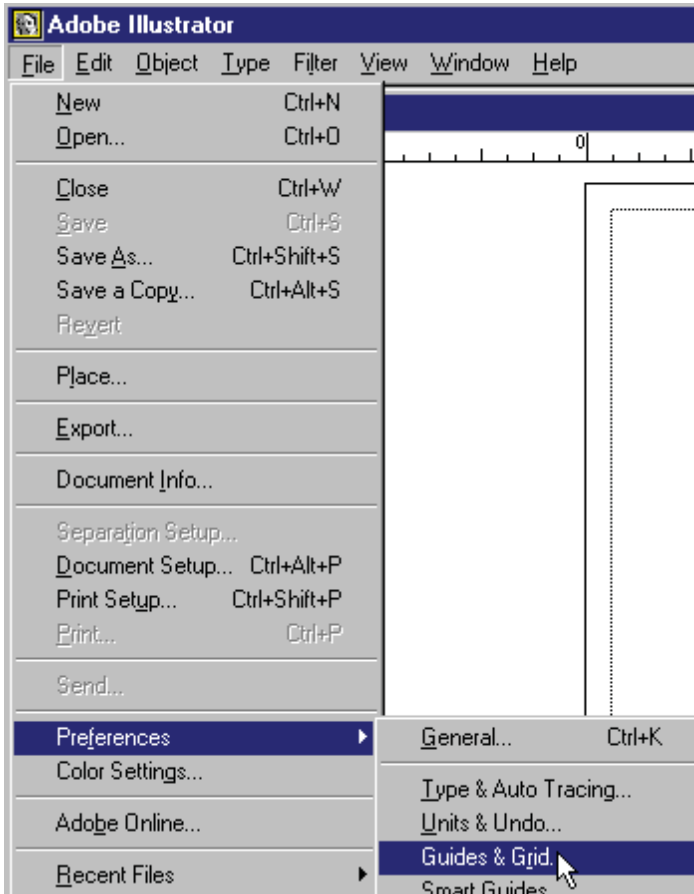
INTRODUCTION TO GRAPHICS

Rubics Cube in Illustrator

Information Sheet No.



To help us make our Rubik's Cube, we're going to be using Grids in Illustrator. Click on File >> Preferences >> Guides & Grids.

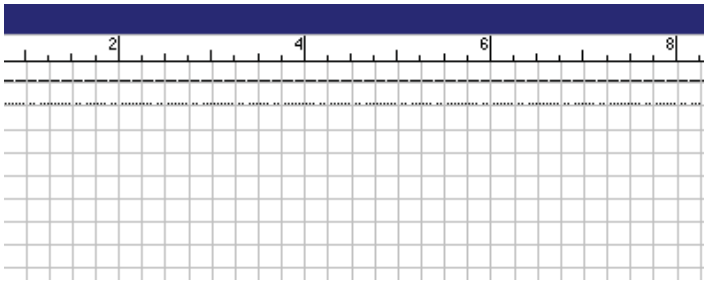


Next choose View >> Show Grid.

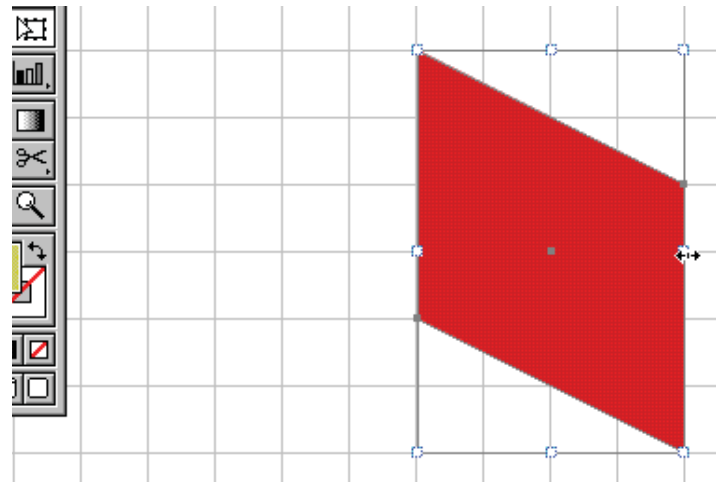


Make each section of the cube one inch wide; You'll place the lines for the cube a quarter inch apart. So set up the grids to lines with a gridline every .25 inches, and click the box next to "Grids in Back".

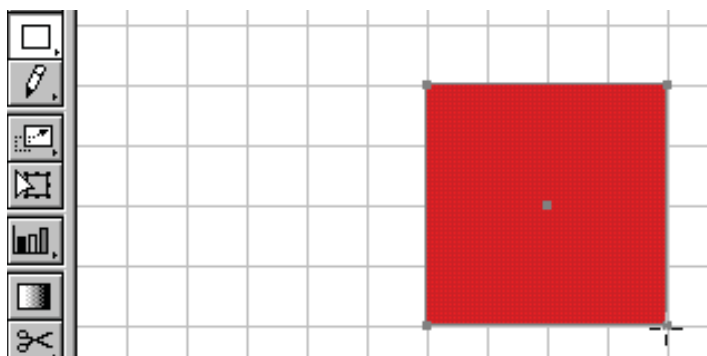
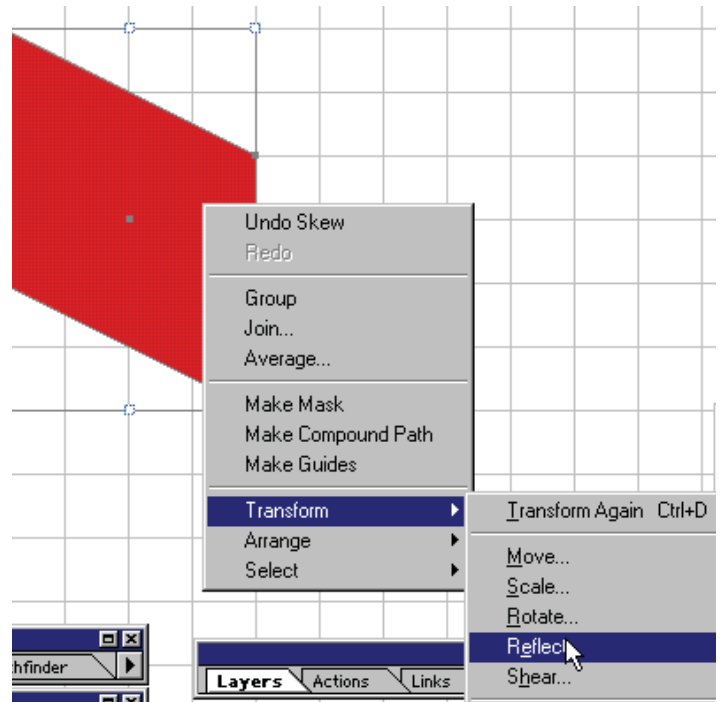
You can see the grid below.



Make sure that "Snap to Grid" is checked under the View menu. This means that when your cursor gets close to a gridline, it will "snap" to it.

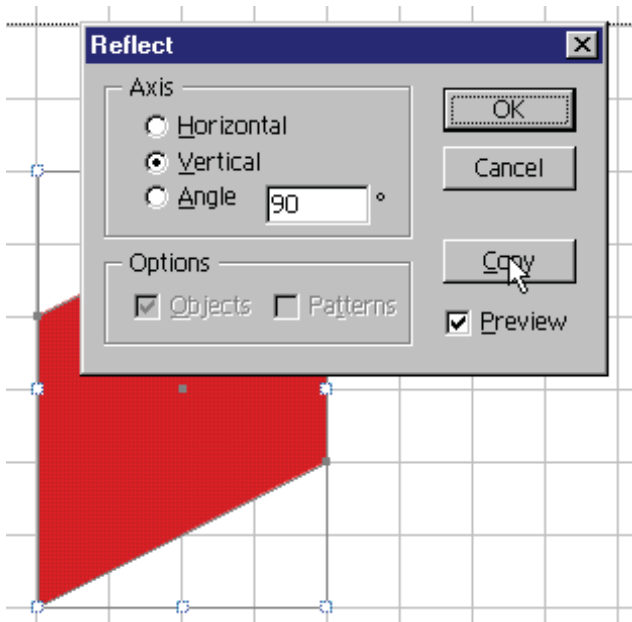


Choose the free transform tool from the toolbox. Click on the square you just drew, then on the center box along the right side. Holding down Control + Alt (Command + Option Mac), drag down — this shears the square.

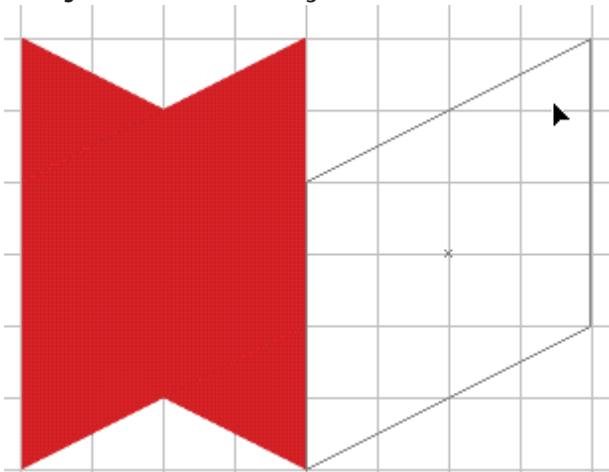


Draw a red square by starting on one grid line, holding down the shift tool, and dragging over to the fourth gridline (this creates a 1 x 1 square).

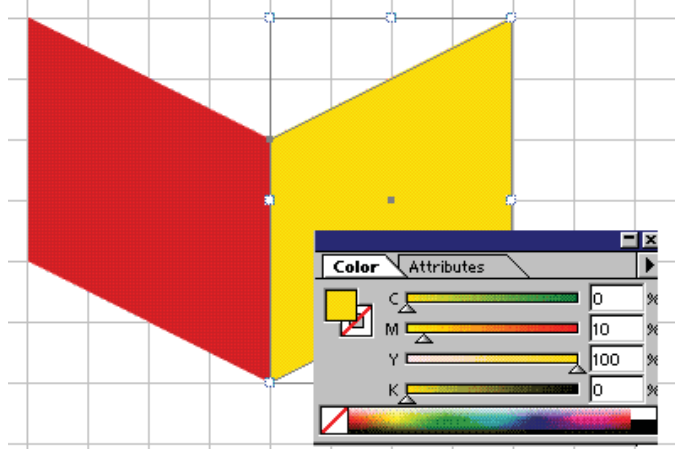
To make the left side of the cube, we can just reflect a copy of what you've just created. Right click on the object (or choose Object >> Transform >> Reflect) to bring up the reflect dialog box.



Choose Vertical for your axis, and click on the copy button. This reflects a copy of your object horizontally.



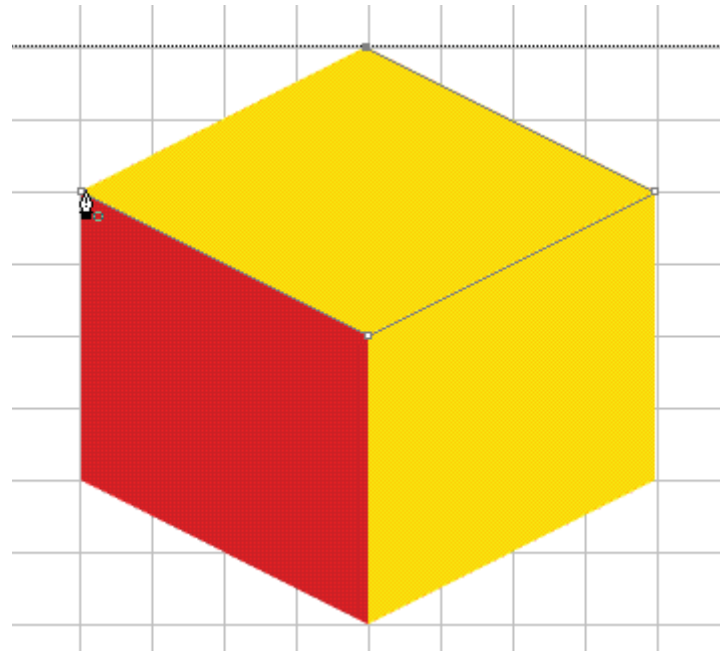
You can use the grid lines to move the reflected copy over to the right.



With the reflected copy still selected, change its color to yellow



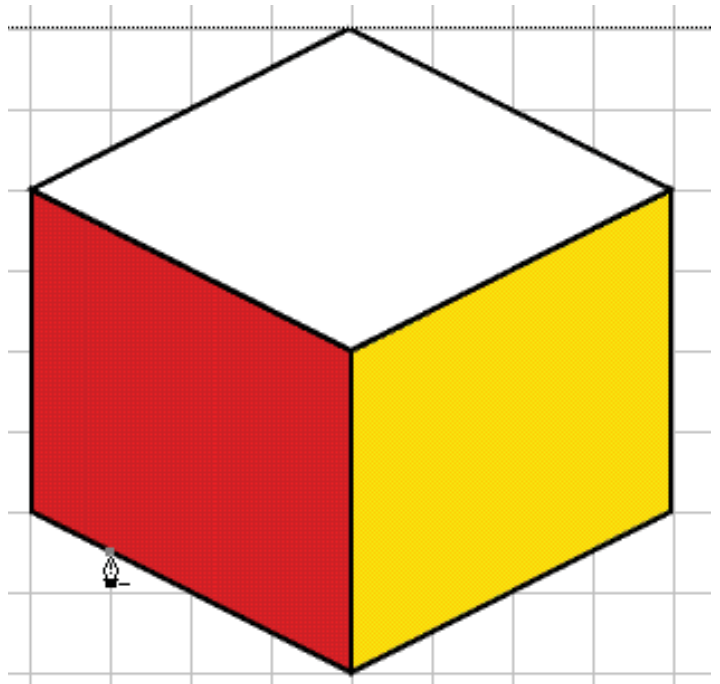
Now click P to access the pen tool on the toolbar. We're going to create the top of the cube.



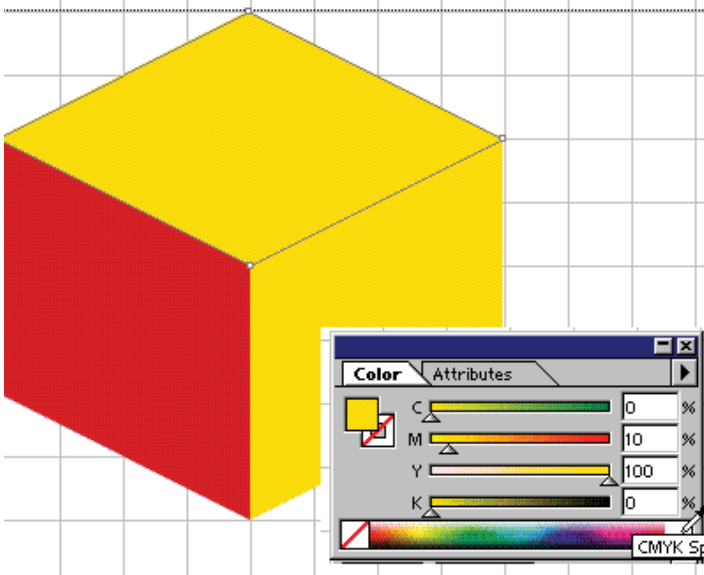
Click on the top corner of the red side. Next click at the intersection of grid lines two lines up and four lines to the right, or the center of the cube. Now click on the top right corner of the yellow side. Finally click on the top corner of the red side again to close the object; you'll see a small circle next to your cursor to indicate that you're closing an open path.

Your cube is beginning to take shape. Now it's time to add the lines.

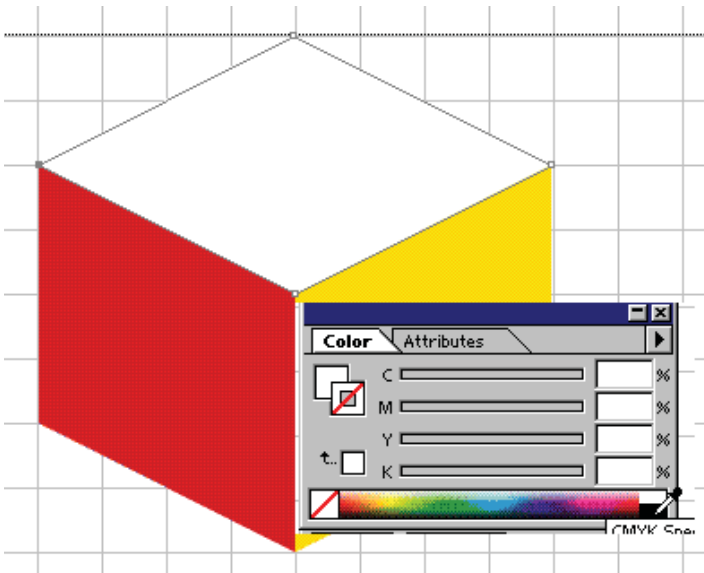
Drawing Lines



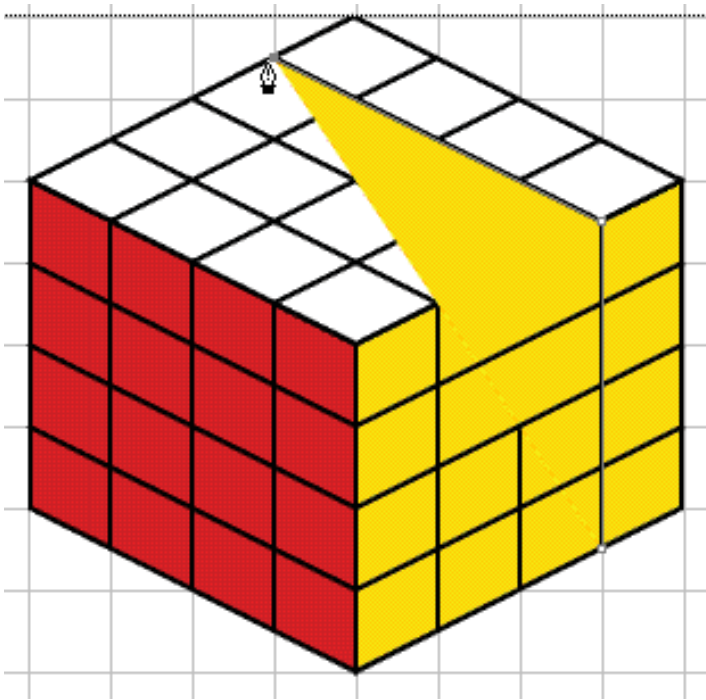
Now we're going to start making this actually look like the Rubik's Cube, and that's where the grid comes into play. Using the pen tool, click on one of the grid lines that touches the bottom of the red side to start a line. To finish, move the pen tool to the top of the red side and click where the grid line intersects the top. It takes a little bit of visualization, I found, even with snap to grid turned on. If the line isn't right, just press Control + Z (Command + Z Mac) to undo the last click. Remember to click the pen tool in the toolbar again before starting a new line, or you'll just be continuing the same line. Or you can Control click (Command click Mac) anywhere away from the line to end it. The grid will make sure that all our lines are evenly spaced.



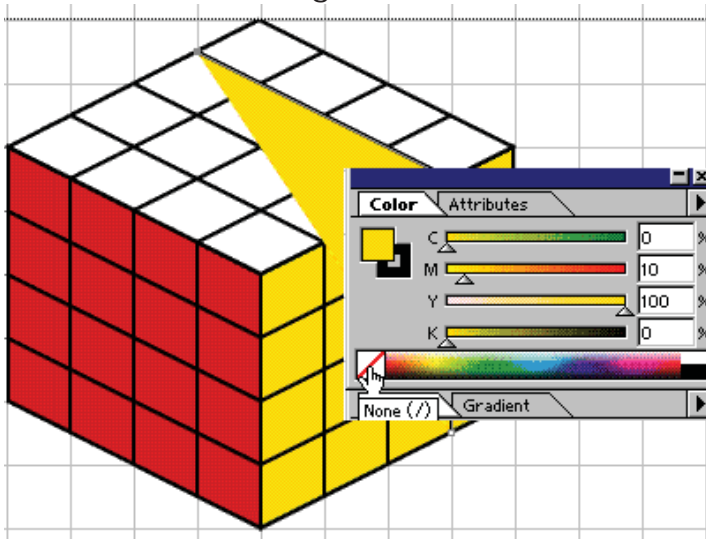
Change the fill of the top to white by clicking on the white rectangle at the end of the color bar in the color palette.



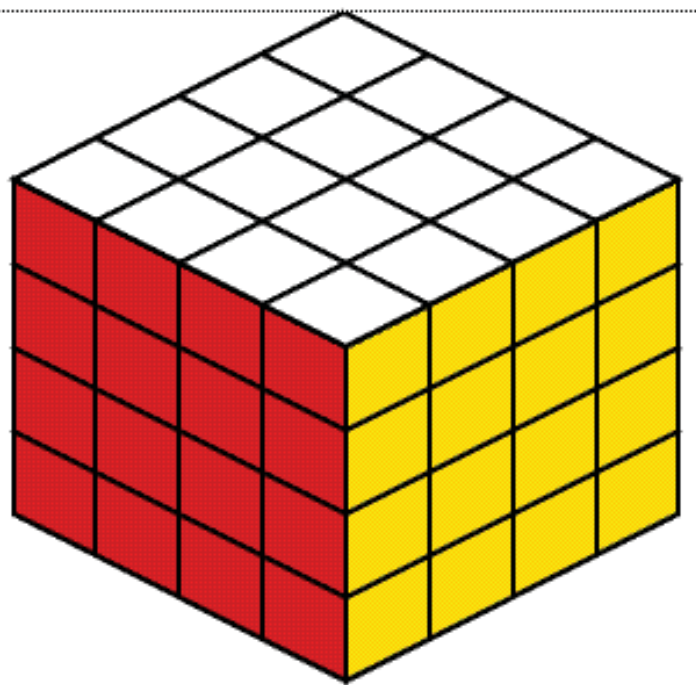
Make sure that the open square (this indicates the outline) is on top by clicking on it. We want to give the top and sides an outline of black. Once the outline is on top, click on the black rectangle below the white to change the outline to black.



To finish lines, click on the intersection of the cub and the grid.

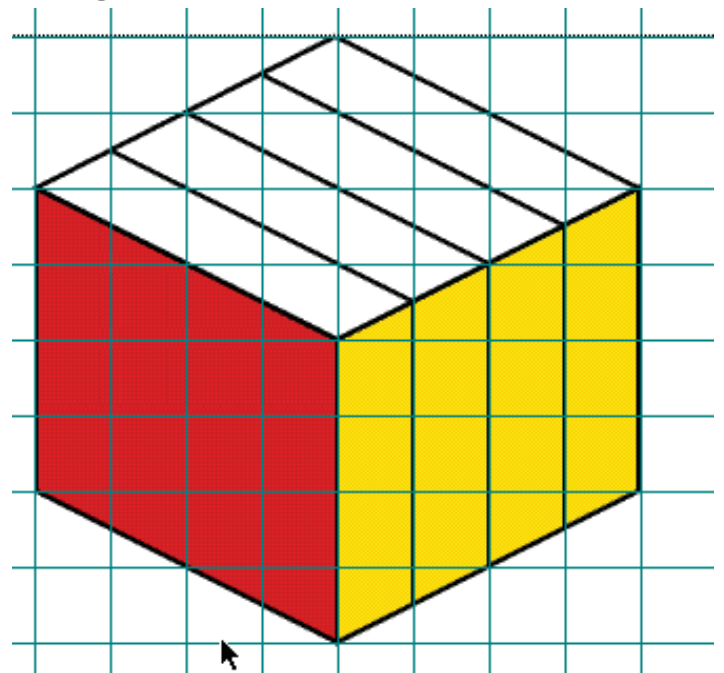


Lines can actually have fills in Illustrator, and you're seeing that happen here. Just click the rectangle to the left of the color bar with the red slash through it; this sets your fill to none. In fact, I would have been better off doing this before starting the lines while no objects were selected — this would set all fills to none until you change the fill again.



Above is the finished cube. You can use the grid and guides as an alternative to using just the grid; I'll show you how in the final portion of this tutorial

Using Guides

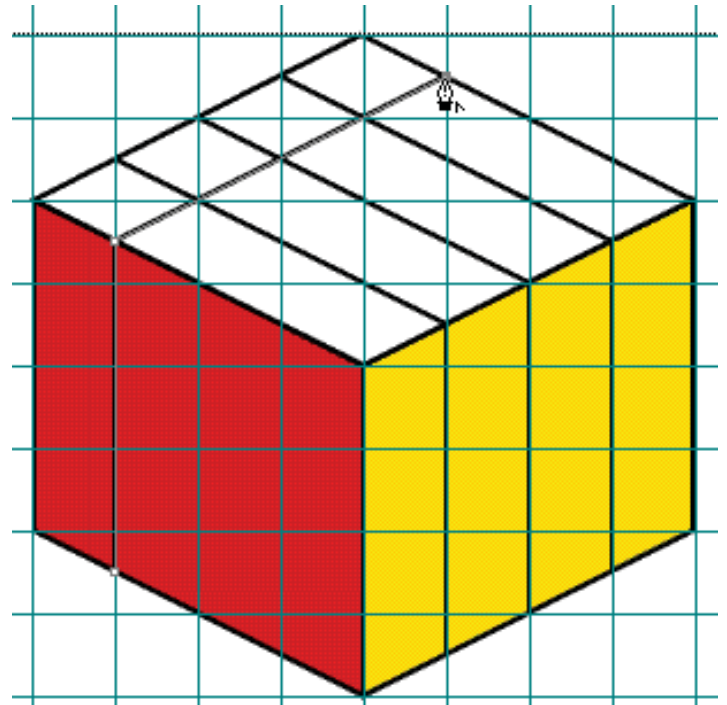


With snap to grid turned out, it's pretty easy to drag out guides to match the grid.



Once you've got the guides set, Choose View >> Hide Grid to turn off the grid. Make sure "Lock Guides" is checked so you don't accidentally move any of the guides. You may also want to turn on smart guides, which will show you when you're near a guide intersection (although this works sometimes for me, and sometimes not).

Make a click at the intersection of the guides and the cube just like you did with the grids to create the lines. Notice that a little angle shape shows up next to the pen when you're near the guides..



Just keep clicking the intersection of the guides and the cube until all the lines are done.

