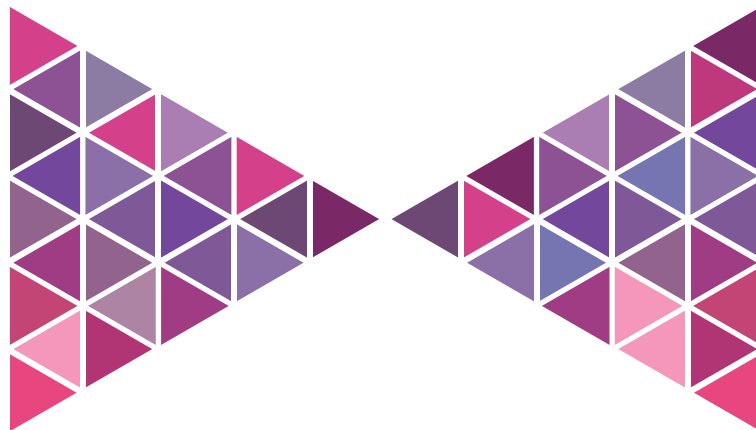
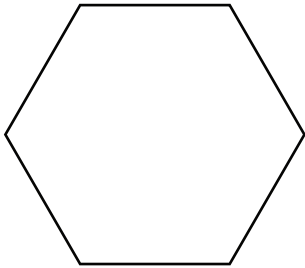




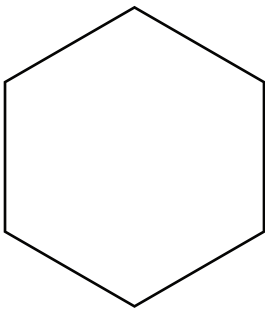
Create a tessellated triangle design
with Adobe Illustrator



1. Select the Polygon Tool and create a hexagon with no fill and a 1 pt stroke. The stroke colour doesn't matter as we can change it later.



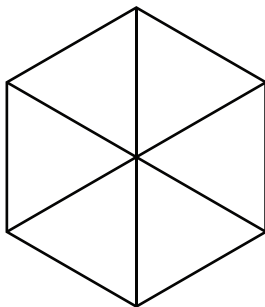
2. Select the hexagon, go to Object>Transform>Rotate > 30°:



3. Turn on the Smart Guides (Ctrl+U) then select the Pen Tool to draw some lines across the hexagon to create 6 triangles as in the image below.

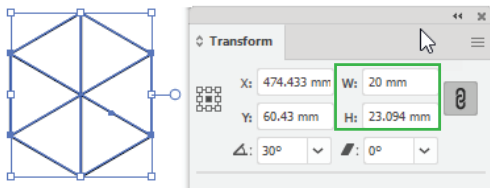
Hold down the Shift key as you start drawing from one anchor point to another to stop Illustrator deleting the anchor point.

When you have finished each line, select Esc to break off the Pen Tool.

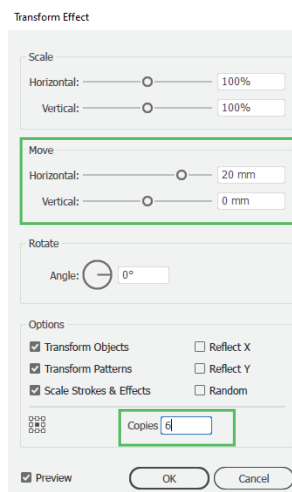


4. Group the hexagon and the lines.

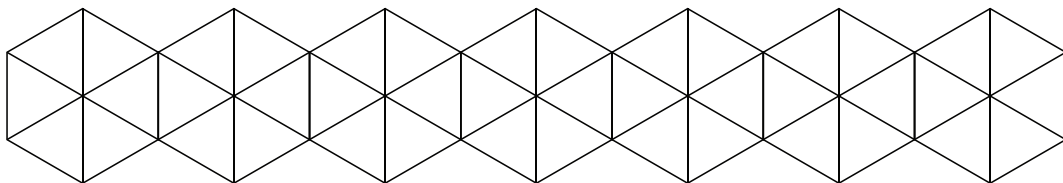
5. Select the group, go to Properties>Transform and make a note of its size.



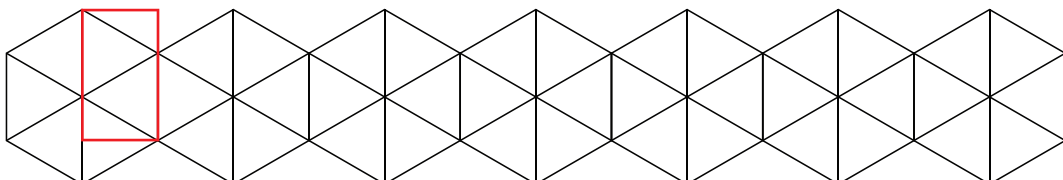
6. Select the group and go to Effect>Distort & Transform>Transform.

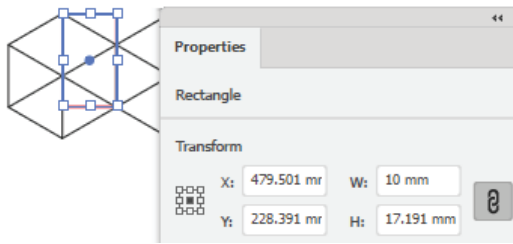


We're going to create a row so in this instance we need to work out the horizontal offset. We know the width is 20 mm (see above):



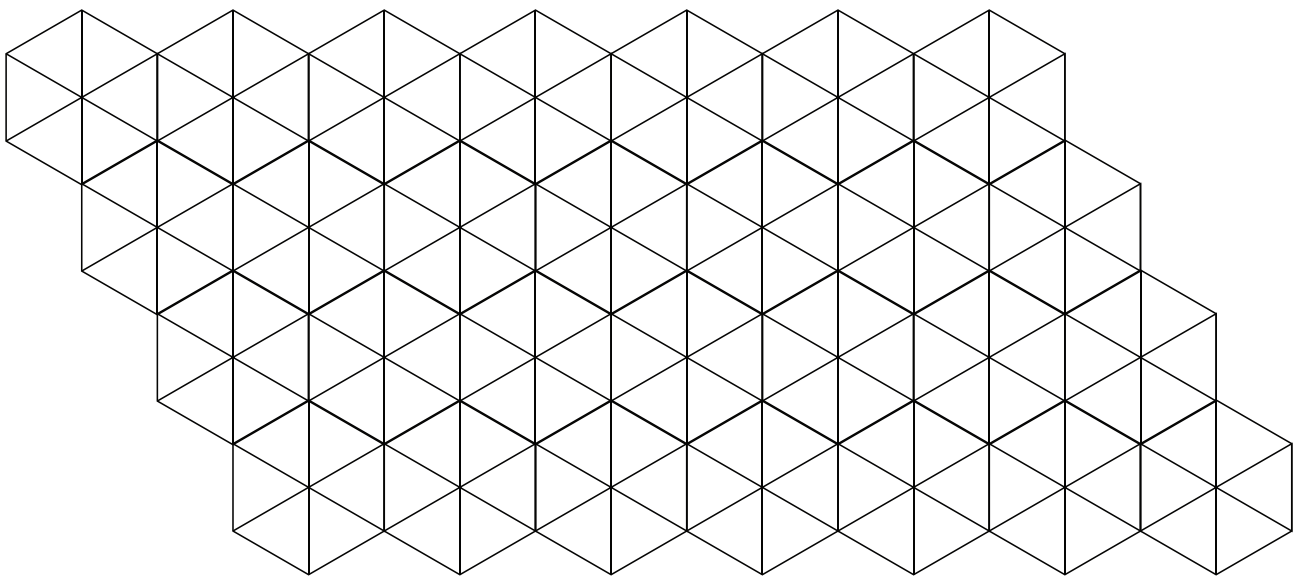
7. To calculate the offset values for multiple rows, select the Rectangle Tool (M) and draw a rectangle from the apex of the hexagon to mid-section, as below and take a note of the height of the rectangle in the Properties>Transform Panel:





The height of the rectangle is 17.191 mm.

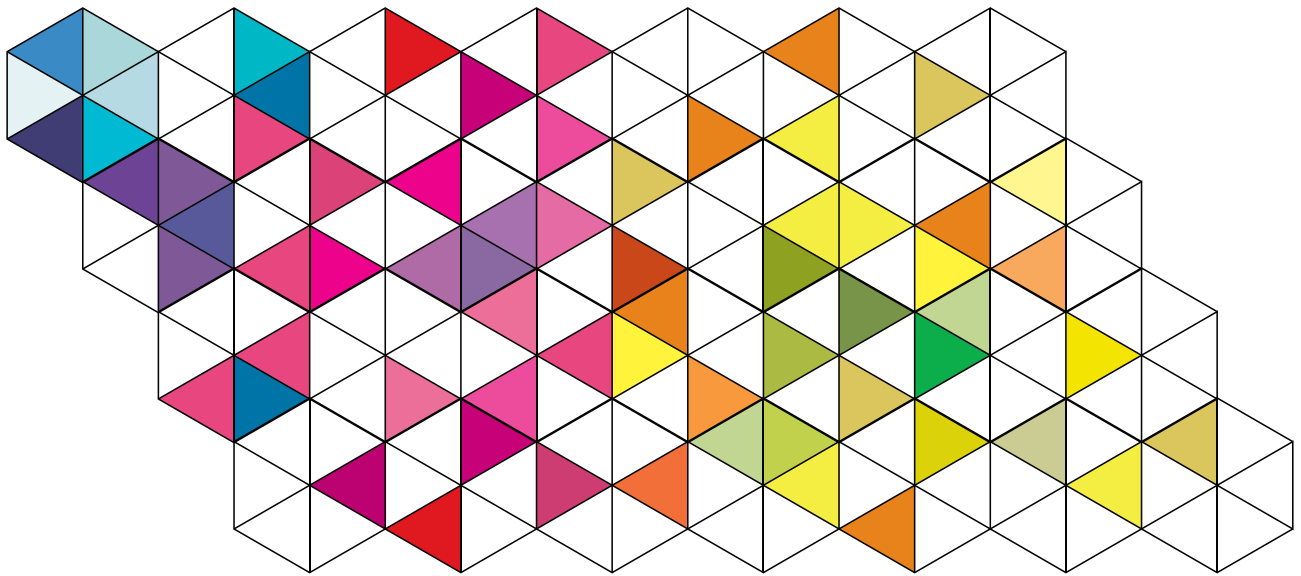
8. Swipe-select the value and copy it then go to Effect>Distort & Transform>Transform and enter the value as follows (Select Okay when the prompt to Apply New Effect displays):



9. Select the hexagon and go to Object>Expand Appearance.

10. The hexagons are grouped but now expanded. Go to Object>Live Paint>Make.

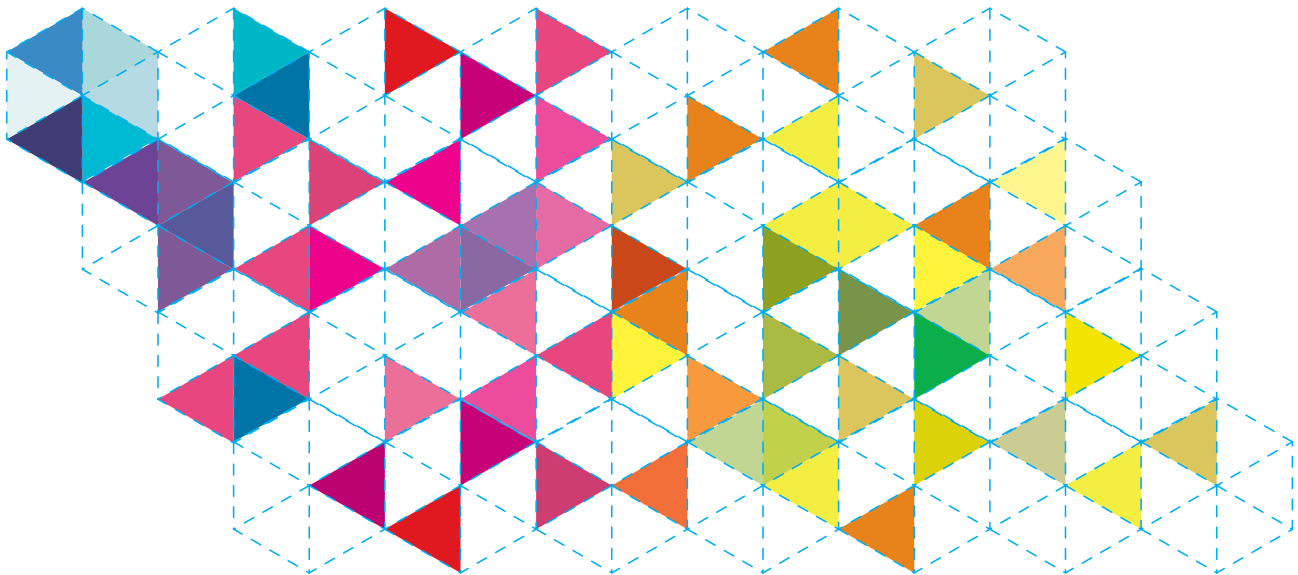
11. Select the Live Paint Bucket Tool (K) and Fill in the individual triangles with colour.



TIP

A useful tip when changing colours to fill the shapes in is to hold down the Alt key, select a colour then click on a shape to fill it with.

12. To change the Stroke colour and other stroke settings, select the Selection Tool (V), go to Properties and change the Stroke colour/ weight etc: I've used a blue dashed line:



13. To delete all Strokes: go to Select>Same>Stroke Colour and Delete.



Unfortunately, I don't know of any easy way to delete lines that you don't want. To delete individual lines / triangles do the following:

14. Go to Object> Live Paint > Expand

15. Ungroup (you may need to repeat this some five times or so).

16. With the Selection Tool (V) select lines and delete them individually or, if there are groups of lines with sufficient distance from the coloured triangles, you could try using the Lasso Tool (Q) to select several at a time then deleting.

