

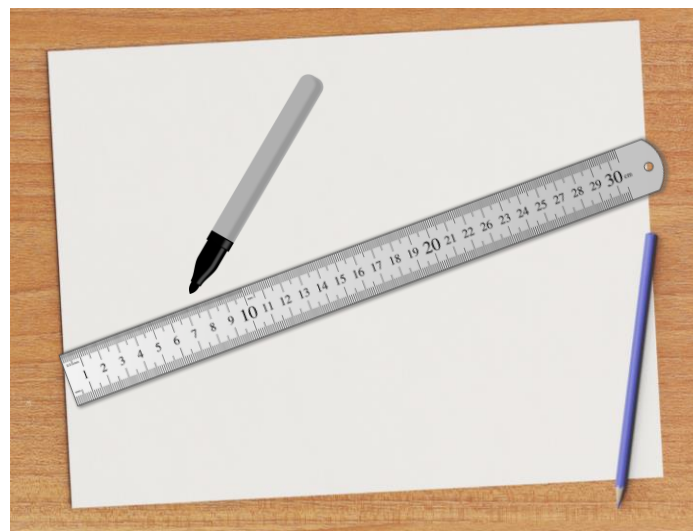


**Advanced Mathematics
Support Programme®**

Optical illusions

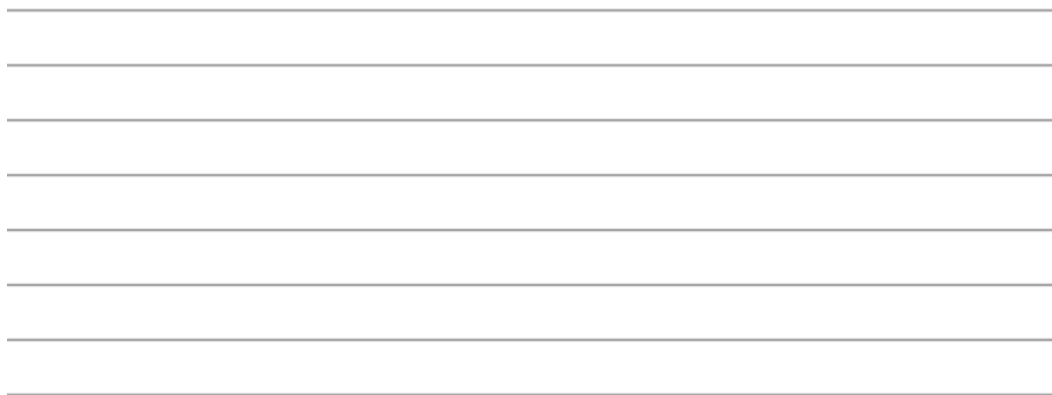
Black and white optical illusions

- There are many black and white optical illusions.
- We will create one, then explore ways to make others.
- You will need plain paper, a pencil, ruler and black marker



Parallel lines

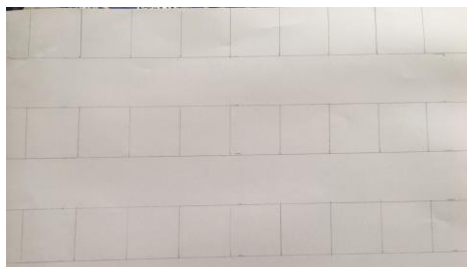
- To start, take a landscape sheet of paper and draw in pencil a set of parallel lines. Divide your paper in to at least 6 lines, an even distance apart.



- Ensure you draw your lines with a ruler and a sharp pencil (not your black pen).

Step 2

- Divide your first, third, fifth etc lines in to even size squares.



- Divide the other lines in to the same even size squares, but off set by half a square.



Step 3

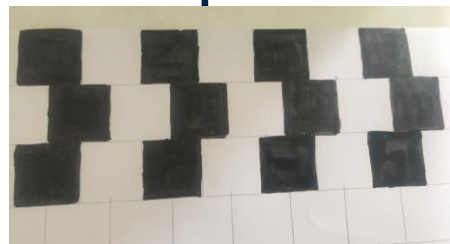
- Colour alternate squares in black on the first row.



- Continue this on the second row.



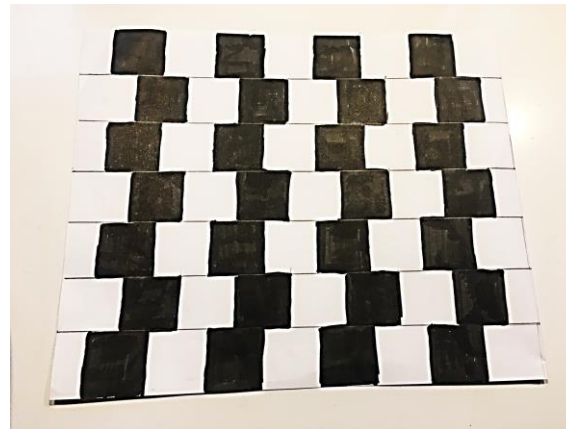
- The third row copies the first row.



- The fourth row copies the second row, and so continue.

Step 4

- You have finished! Step back and admire your parallel lines illusion.



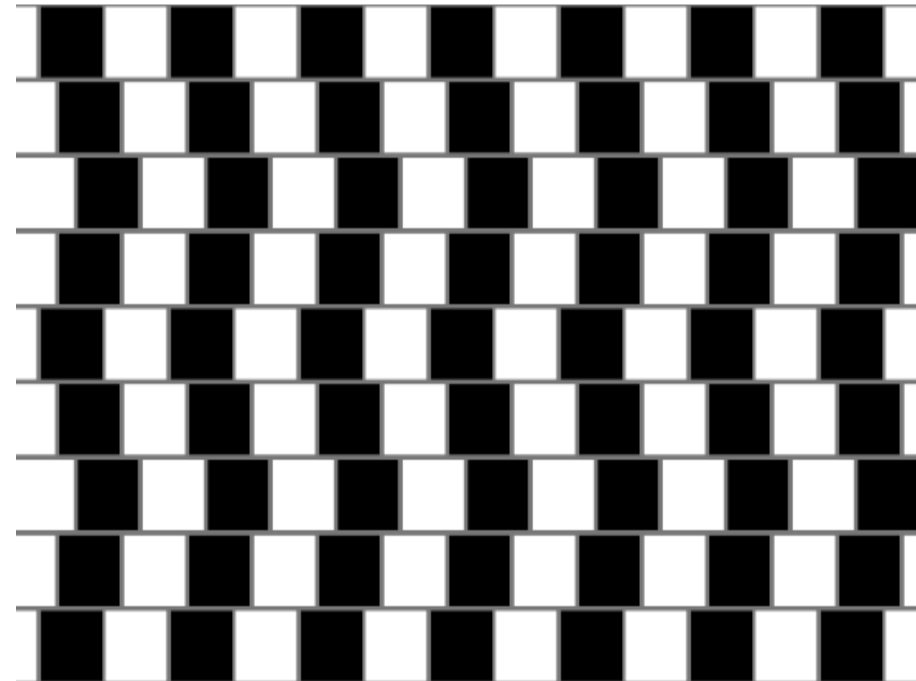
- This illusion is known as the ‘café wall’ illusion, named after a café in Bristol that has these tiles on its outside wall.
- It was first discovered in 1898, then forgotten about until the café in 1973.



The original café wall illusion in Bristol

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Digitally created image



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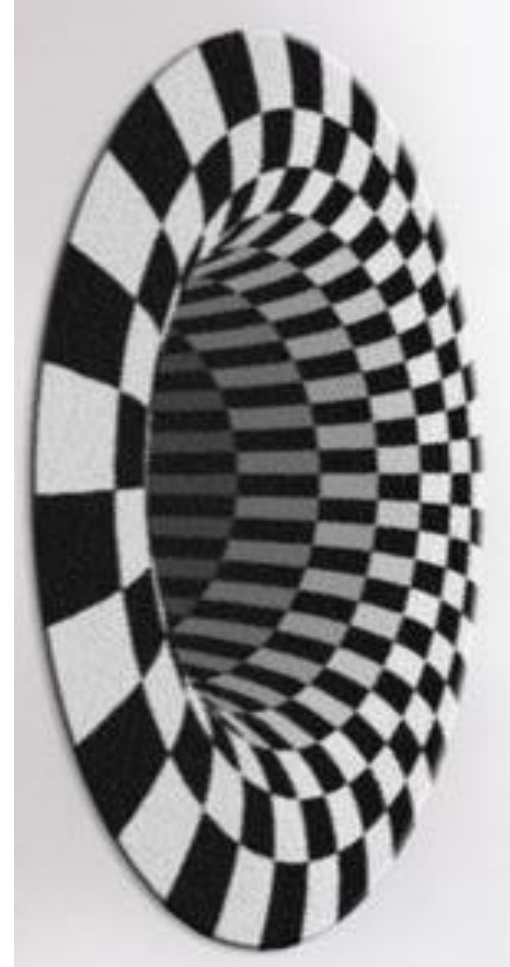
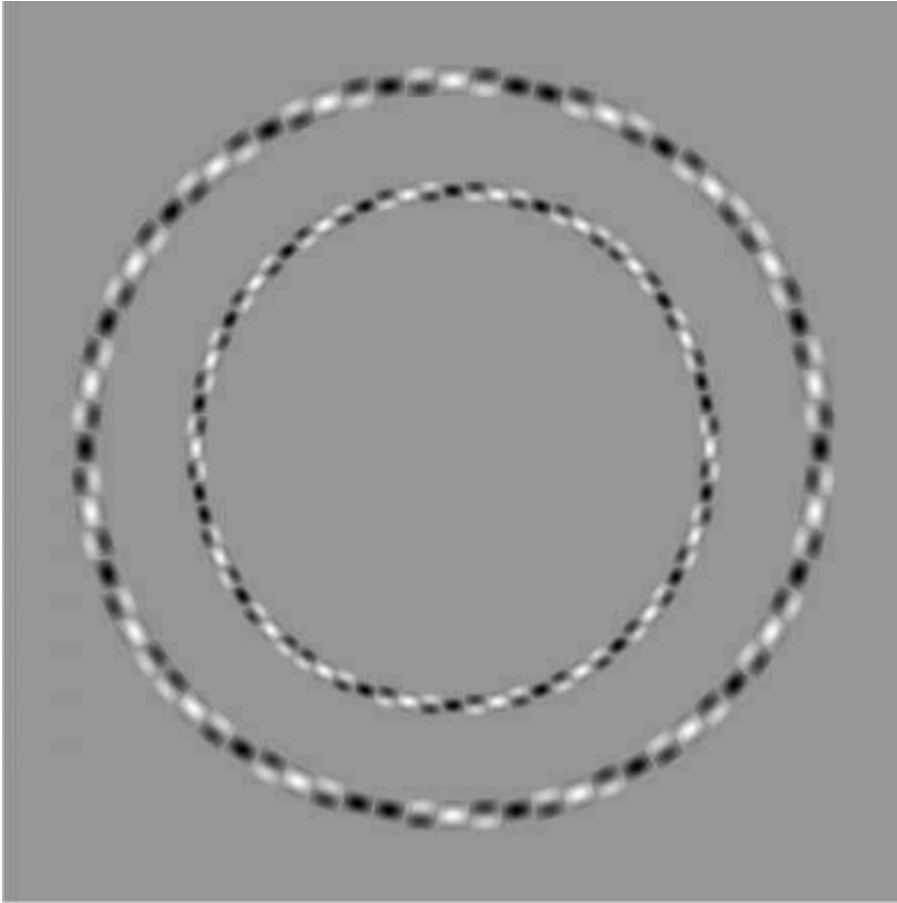
Melbourne's Digital Harbour Port

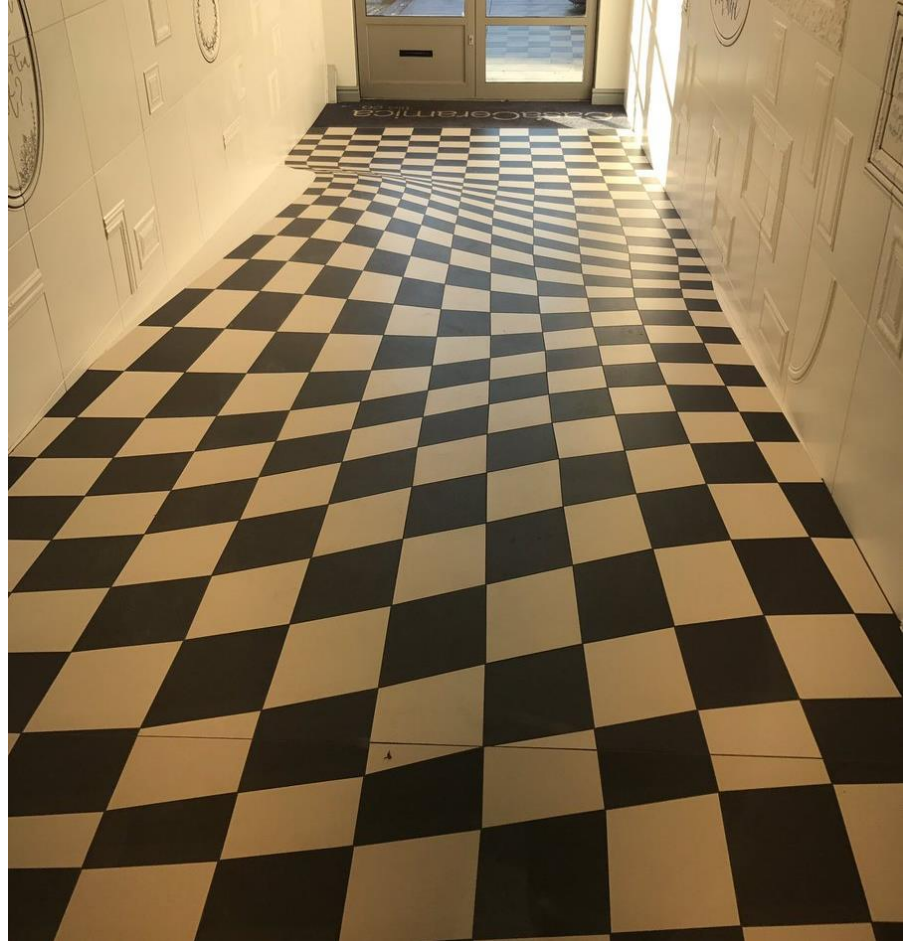


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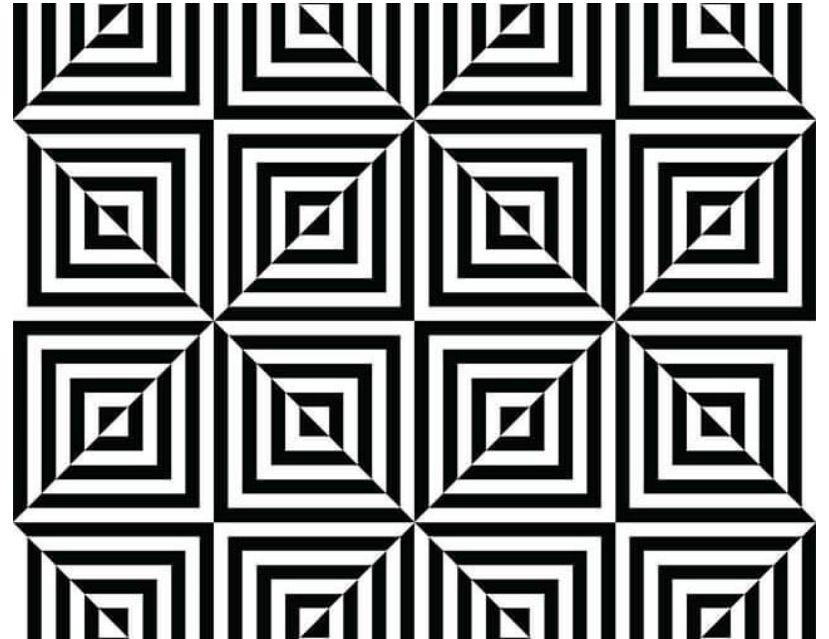
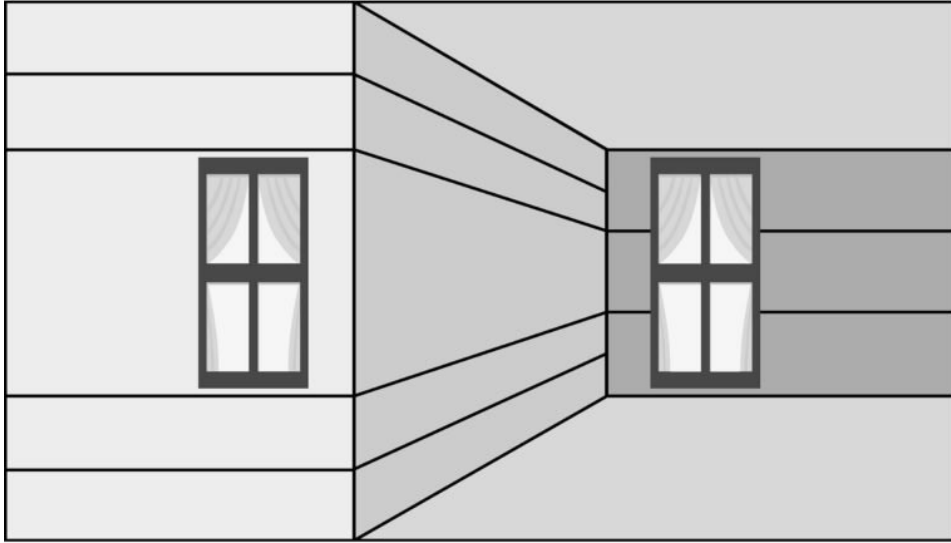
Next steps

- There are many different black and white optical illusions you can create from parallel or non parallel lines and similar shapes.
- See what shapes inspire you to create your own.





Hallway from Casa Ceramica <https://casaceramica.co.uk/our-optical-illusion-entrance/>



Penrose Triangle



You also might want to explore impossible shapes, such as this one.

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