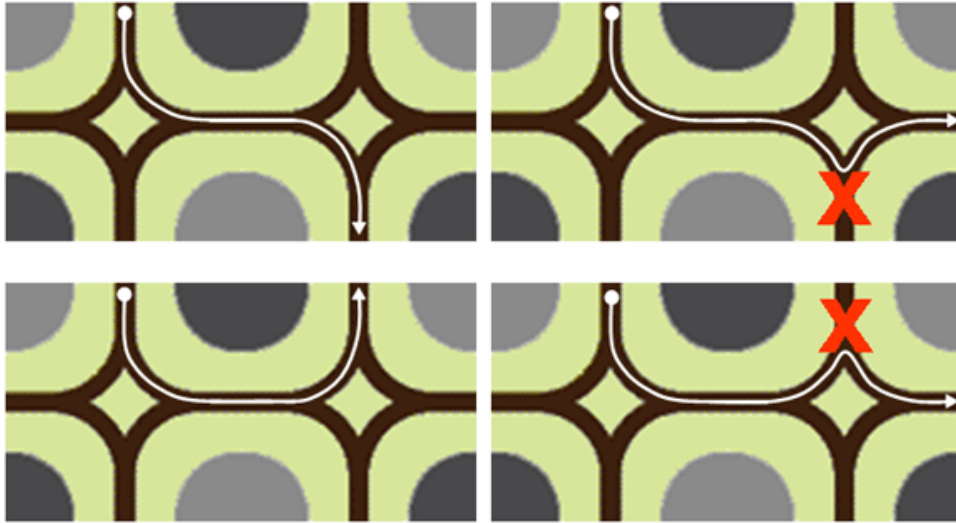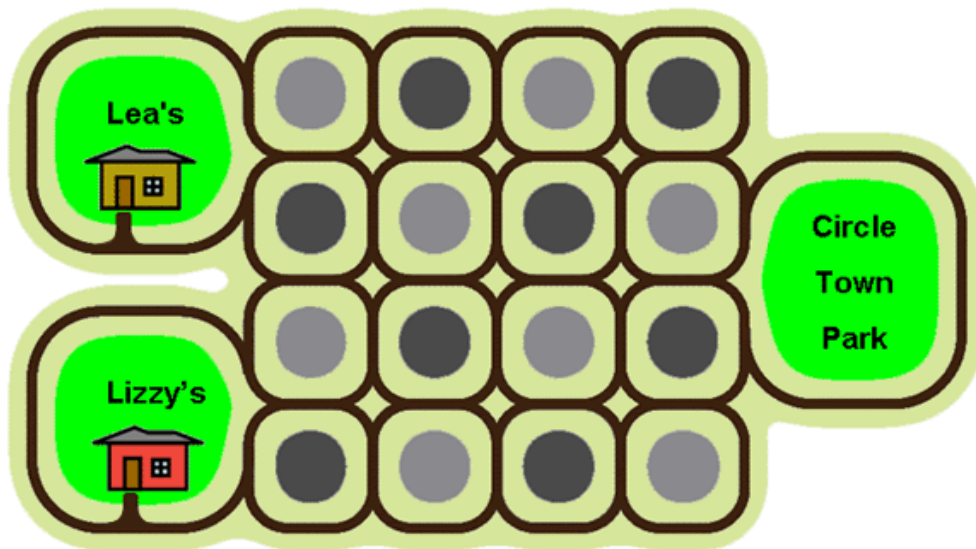# Circle Town

There are only two laws in Circle Town.

1. Nobody can walk outside. This means that children must learn to drive from a very young age.
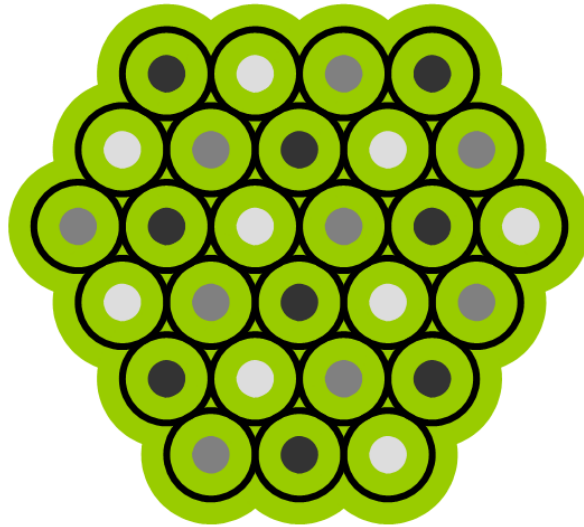2. No U-Turns!

"No U-Turns!" means that a car following the white lines on the right would be making illegal turns.

Two young friends, Lea & Lizzy, live on the West side of Circle Town. Can you help them get together?
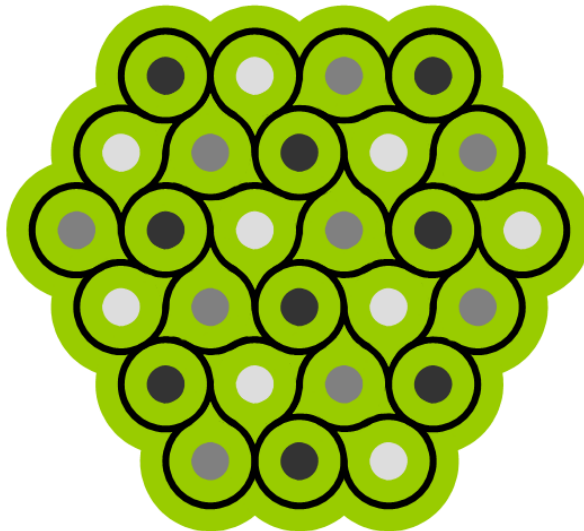
Extensions:

- Once, the road was closed around Circle Town Park. Can you prove it was impossible for the two friends to meet during this time? Hint: Think of which roads in Circle Town permit clockwise and counterclockwise traffic when starting from Lizzy's home.
- Move the two households around. Is it always possible for the friends to meet?
- Lizzy made a new city plan for the centre of Circle Town. Does Lizzy's plan make driving around easier?

- A law maker decided that there were too many intersections in Lizzy's Circle Town Plan so whenever the new Circle Town was built many of them had been removed:

- How easy it is to drive about in the new city? Add as few intersections as possible from Lizzy's original plan so that it is possible to get from any point to any other point in the city.
- Create your own city with its own driving problems:

The Math in This Problem

In this math puzzle, students will analyze various shapes, while applying them to simple designs within urban planning. The simplicity of road planning within this investigation will give a general idea of the importance of shapes and their use in practical applications.