## Exercises

1. For each of the following pictures, decide whether it is a **knot** or a **link**. If it is a link, write down how many **components** there are.



2. Make a **mathematical knot** from your string and draw a picture of it.

3. The next picture is the **projection** of a knot. But which knot? Investigate with your string and draw all the different possible knots that might make this shadow. (Use the next page for your drawings.)



How many of the knots you have drawn are mathematically distinct?

4. Can you draw a knot which has **crossing number 5**? How about a knot with **crossing number 6**?

5. Find out whether each of the following knots can be tricoloured. (Draw them out again on scrap paper if you make a mistake.)



6. Compare the knot you made in question 2 with your neighbour's knot. Are they the same or different? How can you be sure?

If you have any questions about this masterclass, email Julia.Collins@ed.ac.uk.