

## Workshop C The Pro-Bot and the Geoboards

### Task 1

#### Problem-solving with the Pro-Bot

1. Look at the activity provided and decide which tasks are **close-ended** and which tasks provide opportunities for more **creativity**.
2. List all the properties you can think of about a **regular hexagon**.
3. Create a sequence of instructions to draw a **regular hexagon** using the Pro-bot. Try it out. Following this activity, can you add any more **properties** about the regular hexagon to your list above?
4. Using the same reasoning to draw a regular hexagon, make a list of instruction to draw a **regular pentagon** and/or **octagon**.
5. **Design a problem-solving activity using the pro-bots which is suitable for Year 5 children.** In what ways does the activity foster **problem-solving** and **creativity**?

Extension: Can you **split** a shape into smaller shapes using the Pro-Bot?

Can you draw **different shapes** inside another shape using the Pro-Bot?

### Task 2

#### Problem-solving with the Geoboards

1. Spend 2 minutes creating shapes using the rubber bands and the geoboard.
2. Think about the type of shapes you are creating. Discuss their **properties, similarities** and **differences**.
3. How many **different shapes** can you create on the geoboard, without leaving any free space and without overlapping shapes? Create a frequency table to count the shapes according to the number of **sides**.
4. How many **three-sided shapes** can you create on the geoboard? Are they all **triangles**? How many are **equilateral** and how many are **isosceles**?
5. Think of a **hexagon**. Explore different ways how to create a hexagon using more than one rubber band. Which **shapes** did you use to make the hexagon?
6. **Discuss** how we can use geoboards differently to link with other mathematical skills.