# Algorithm Worksheet

1. **Add the two numbers below using the ADDITION algorithm you studied in school.**
   345 + 176 + _____   *Show all steps, as done on the slide 5 example.*

2. **Now, come up with the steps for the addition you just performed. Start with step 1, "Write both numbers one above the other," and so on.**
   Do not miss any steps. This creates your algorithm!

3. **Consider the maze shown below. The task is to make the robot move from either the green or blue circle, and go through the maze, that is, move forward and then turn left to go through the two blocks without bumping into the walls. Based on the material covered in the slides so far, <u>discuss all the problems you may face</u> if you use only move blocks using exact distances, such as "move 5 rotations forward."**
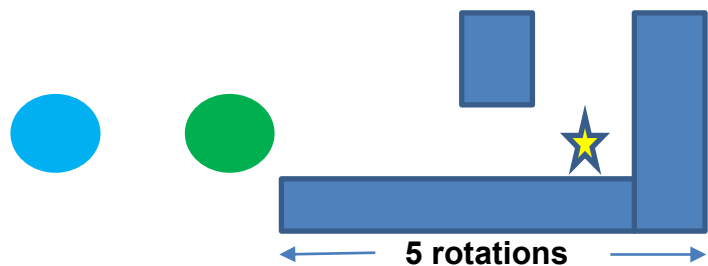
4. **Use the conditional command "until" to write a sequence of steps to tell a robot to stop when it bumps into a wall.** *Example*: Play at recess until you hear the bell ring; then go back to class.

5. **Write down in steps the "algorithm" you will use to have a robot navigate the maze diagram drawn below, using conditional commands (and NOT move commands). Write out your algorithm in words, such as: "Move forward," etc.**

5 rotations
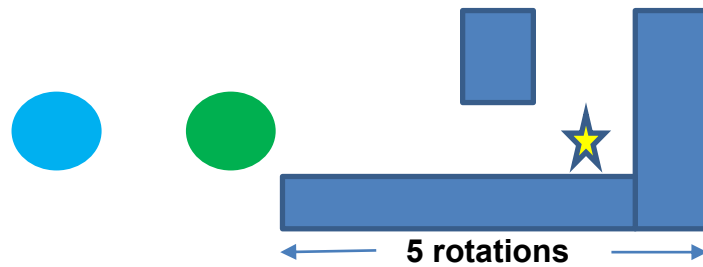
6. **Now draw the NXT program blocks (such as those we learned about on slides 14-18) that you will use to implement the algorithm above. Approximate forms of the blocks are fine.**