Name:_____

01

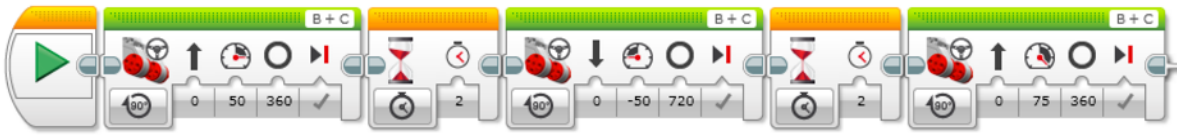
MOVE STEERING 2 – DEGREES

1. Open Lego Mindstorms
2. Click File → New Project → Program.
3. Click File→ Save Project As→ Computer → your name → file name {Name Move Steering 2} . For example, it would say “Hill Move Steering 2”
4. After saving your project create programs within this project by clicking the + next to Program tab (NOT THE + NEXT TO THE PROJECT!!). Name the programs:

Recreate	30 cm	200cm.75
50.10.30	50.5sec	rot.deg

4. Since the project is already named at the end of every class you will click FILE → SAVE PROJECT NOT FILE → SAVE PROJECT AS

CHALLENGE 1: **Recreate**



The first green block makes the robot….?

The gold blocks make the robot……?

What does the second green block do?

What does the third green block do?

CHALLENGE 2: **Using degrees only, create a program that will make your robot travel 30 cm**

Once you get your robot to travel exactly 30 cm, determine how many degrees would it take to travel…

Show your work using proportions

50 cm

150 cm

CHALLENGE 3: **Create a program to make your robot travel 200 cm at 75% power.**

How many degrees did you program? Why? Prove it using math

CHALLENGE 4: **Create a program that will make your robot travel 50.10.30**

Create a program that has your robot move forward 50 cm at 100% power, backward 10 cm at 30% power and then forward 30cm at 50% power. (Use a mat if needed). What is the end distance of the robot? (don't cheat. Write down the results, not what you *think* it should be.

CHALLENGE 5: **Create a program that will have your robot travel 50 cm but take 5 seconds**

Your previous Challenges should give you the number of degrees you need for 50 cm. You will need to adjust the power to make this happen. What power did you need to use to do this?

CHALLENGE 6: **Create a program that will use rotations to travel forward 1 meter and then use degrees to travel backward to your starting point.**

How many rotations did you need? How many degrees did you need to use? Use this to show the relations between rotations and degrees.