**TURNING** **100 Points.**

**Basic 75 pts. 75% C**

**Challenge 1 5 pts. 80 %= B-**

**Challenge 2 10 pts. 90% = A-**

**Challenge 3 10 pts 100% = A**

**Team Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Team Members’ Names\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date**

**BASIC**

**VIEW** video in Connect 1: “Nomad: Ice Sheet Explorer”

**USE** Connect 2 to construct your robot according to the directions in VT.

**READ** Construct 3, “Lesson Overview,” and answer question 3.1

3.1\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**READ** Construct 4, “Point Turns,” *Program Point Turn Behavior,* and answer question 4.1

4.1\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**DEMONSTRATE** “Point Turn,” first to a fellow classmate and then to a teacher.

**READ** Construct 5, “Swing Turns,” *Program Swing Turn Behavior*, and answer questions 5.1 and 5.2

5.1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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5.2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**DEMONSTRATE** “Swing Turns,” first to a fellow classmate and then to a teacher.

**READ** Construct 6, “Program Review,” *Left Point Turn Program*

**READ** Construct 7, “Program Review,” *Left Swing Turn Program*

**READ** Contemplate 8, “Adjusting Turning,” *Adjust duration to perform a desired rotation,* and answer questions 8.1 and 8.2.

8.1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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8.2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**DEMONSTRATE** “Step 8 Challenge,” first to a fellow classmate and then to a teacher.

**READ** Contemplate 9, and answer questions 9.1and 9.2.

9.1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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9.2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**USE** proportional math to find the degrees necessary to rotate 360º.Show your neat, orderly math below:

**DEMONSTRATE** “Step 9 Challenge” first to a fellow classmate and then to a teacher.

**READ** Contemplate 10 and answer question 10.1

10.1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**DEMONSTRATE** your “Point Turn to the Right,” first to a fellow classmate and then to a teacher.

**READ** Contemplate 11, and answer question 11.1

11.1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**READ** Continue 12, and follow the steps to complete the *Maze Challenge.* There is one major adjustment in the Maze Challenge: Change the outside dimension of your *centered* square from 60” to 40” when you lay it out *centered* on your whiteboard. It is important that all other measurements be changed proportionally, in order for them to be accurate on the board.

**Show all proportional math** work prior to laying out your whiteboard. Use a neat piece of notebook paper.

**You may choose** to layout the Maze Challenge as well as the other challenges in one of two ways. One, you may work with the group across from you and create one board that both teams will use, or you can choose to do your own layout on your own board and work on the floor or one of the three round tables in the room. Whichever one you choose, each ***team*** must do its own math.

Layout must be neat, with square corners, and accurate within 1/2”

**Show all proportional math** work below prior to laying out your whiteboard. Use a neat piece of notebook paper. Title the paper “Maze Proportions.”

\_\_\_\_\_\_\_\_\_\_\_**75 Points**



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