1. What is the circumference of your wheel?

2. If you know the circumference, how far will your robot travel if the wheel spins one time?

3. Now that you know how far your robot travels in one spin (rotation), how many times do the wheels have to rotate if you want to go 24 inches? Show your work.

   Distance you want to go
   ___________________________ =
   Distance one rotation

4. Below is a diagram of a pivot turn. If your robot follows a 9 inch circle as it pivots on one wheel, using the same distance for driving straight for one rotation, how many times does the wheel have to rotate to make a U-turn (180 degrees)?

   9 x 3.14 = circumference

Find the number of rotations for a:

45 deg. turn
90 deg. turn
270 deg. turn
360 deg. turn
Write a program for your current challenge.
Resources

Dr. Graeme tutorials NXT http://drgraeme.net/

FIRST Lego League http://www.firstlegoleague.org/

HiTechnic Products http://www.hitechnic.com/

LEGO NXT hacks and robots http://www.philohome.com/nxt.htm


Lego Engineering Google Groups http://groups.google.com/group/legoengineering

MINDSTORMS AnyWay creations http://laurensvalk.com/home


NXTasy http://nxtasy.org/

Seattle Robotics Society Meetings http://www.seattlerobotics.org

Team Hassenplug http://www.teamhassenplug.org/NXT/

Domabotics http://www.domabotics.com

The NXT Classroom http://www.thenxtclassroom.com/

The NXT STEP - NXT Blog http://thenxtstep.blogspot.com/

Tufts LEGO Engineering http://legoengineering.com/

Mindsensors.com http://www.mindsensors.com/

YouTube - Education is no longer linear http://www.youtube.com/burleighmt

NXTprograms.com http://www.nxtprograms.com/

MIT STOMP Program http://stompnetwork.org/tufts/teacherresources

Email: martin.dillon@qvschools.org