**Post-Activity Worksheet**

A robot called Nemo has 2.5-inch wheels and a robot named Wall-E has 3.5-inch wheels. The motors of both robots have the same RPM (revolutions per minute). Both robots drive forward for 1 minute.

1. Which of the following is true?
   1. Wall-E will go farther than Nemo.
   2. Nemo will go farther than Wall-E.
   3. Both travel the same distance.
2. Which robot will have a greater linear velocity?
   1. Wall-E
   2. Nemo
   3. Both have the same linear velocity.
3. Which robot will have a greater angular velocity?
   1. Wall-E
   2. Nemo
   3. Both have the same angular velocity.

For the following questions, the robots have the same wheel diameter as above (2.5-in for Nemo and 3.5-in for Wall-E).

1. Wall-E is driving with an angular velocity of 20 radians/sec. Calculate Wall-E’s linear velocity.
2. Nemo is driving with an angular velocity of 20 radians/sec. Calculate Nemo’s linear velocity.
3. You want Wall-E and Nemo to end up at the same location. Given their respective wheel sizes, describe how Wall-E and Nemo can drive to end up at the same location.
4. *Think outside of the box!* Why do different vehicles—tractors, trucks, sports cars and SUVs—have different wheel sizes? What wheel size would you want on your vehicle and why?