# Sensor related information for most bikes

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| Constants we know (but will vary between vehicles) | Sensor data we will have | Formulas |
| * Wheel diameter/radius | * Period of rotation (time it takes for the wheel to rotate) | Diameter = radius \* 2  Circumference = π\*diameter  Speed Related:  Rotational Velocity = 2π/period of rotation  Wheel velocity = rotational velocity \* diameter  Distance travelled = number of rotations \* circumference |

# Bluetooth test

This test is meant to serve as a verify a basic phone-Arduino communication system has been reached where data can be communicated both ways and displayed on the phone. Below is a description of the test:

1. The phone sends “1” to the Arduino over Bluetooth
2. The Arduino will receive and read this
3. Arduino increments it (add 1), resulting in “2”
4. Send the new value back to the phone
5. Once the phone receives and stores this
6. Display the received value
7. The phone will increment this
8. Send the new value to the Arduino
9. Repeat steps 2 to 8 until the phone displays a value over 20