

```
void setup()
{
  Serial.begin(115200);
  sharpSetup(); //note that all adcs are running on 1.1v!
}

void loop(){
  Serial.print("di stance: ");
  Serial.print(sharpRead(1))
  Serial.println("cm");
}

void sharpSetup(){
  analogReference(INTERNAL); //cannot exceed 1.1v. use a potentiometer as a voltage divider
  //all analogs are 1v1v!
}

double sharpRead(int ADCpin){ //returns distance that the sharp sensor sees. Send it the analog pin you
wish to read on
  double voltageScale = 2.64; //scale of voltage divider that divides down to 1.1v
  double IRvoltage = analogRead(ADCpin)/1023.*voltageScale;

  //here's the math stuff
  return (log(3.513/(IRvoltage - .4435))*32.35);
}
```