Post-Assessment

1. Draw arrowheads on the lines to indicate the relationship between all of the measurements.

Pressure	Resistance	Current	Voltage

2. How many decimal values can be represented with a 5-bit byte? If the first value is 0, what is the last value?

3. What ASCII character is represented by the decimal value 10?

4. List the decimal values for the ASCII characters in the string "ARDUINO."

5. If an Arduino board sends serial data to an Android tablet or smartphone, which of the following should be true in order to avoid buffering and/or lost data?
   a) Arduino delay < app clock timer
   b) Arduino delay = app clock timer
   c.) Arduino delay > app clock timer

6. Match the symbol to the component name:

Ground	Battery Voltage Source	Resistor

7. What are the colored bands for a 10 kΩ 3-band resistor? A 5-band?

8. Design a voltage divider circuit where the voltage across the top resistor is 25% of the total input and the voltage across the bottom resistor is 75% of the total input. Draw a sketch and label the input voltage and both resistor values.

9. If an MIT App Inventor 2 canvas is 300 pixels wide and you want to plot a data point every two pixels, how many data points can you plot?

10. If you are planning to plot digital values (0–1023), and the canvas is 150 pixels high, what equation will you use to scale the values for the canvas? What if you decide to plot 0–5000 mV? What is your scaling equation now?