GUI Integration Tests:

General Testing:

* Overall, do all buttons perform the appropriate operations

Error handling:

Exit while pulling data:

* Try to exit while actively pulling data (both exit button and the “x”), make sure to try both yes and no options

Start without input (check both circular and rectangular):

* Try to click the start button without entering any cross-section values

Try to start a test twice with the same input values (check both circular and rectangular):

* Check that update option brings up input measurements window
* Check that continue option begins plotting data

Changing settings or input values while pulling data:

* Ensure that settings and input are disabled while actively pulling data and reenabled data pulling is ended

Close program or reset/clear data before exporting:

* Try to close the program, reset, and clear data before exporting
* Ensure that once you have exported data the program will close, reset, and clear without prompting to export again

Unit Conversions:

* When switching between units in settings, make sure labels in the settings window and the input window and on the graph axes update appropriately. The gauge length text fields should also hold the appropriate value based on units.
* When switching units in the input window, make sure labels in the input window and on the graph axes update appropriately. The gauge length value text field in the input window should match the units.

Reset/Clear:

* Check that you cannot reset or clear while pulling data
* When resetting, ensure that all cross-section values return to default (0.0), all other values in the input window return to default values from the settings and the graph clears the data
* When the clear button is clicked, confirm that only the graph resets (input values are still the same)

Pulling default values from settings:

* Upon open, values in input window are the same as their corresponding defaults from the settings window

Exporting data:

* Upon open, ensure that the checkbox to export input values as well is checked
* Ensure that the data is correct when exported and will properly open in excel with and without the input values

Overall testing:

* Run tests from start to finish with real test samples and input values and then export data. Check every part along the way to ensure that the graph and exported data are both reasonable.