Trevin's Guide to Making Sure Your Oscilloscope Works

1. Make sure the power is on.
2. Make sure the signal is plugged in and being generated. This may include checking if your function generator is on.
3. Make sure the signal is being displayed on the scope (turn the signal capturing on).
4. Check zoom/scale setting, both voltage and time. Make a rough guess of what you want to see first then adjust, don't just go adjusting randomly.
5. Make sure the vertical “position” is correct. The ground symbol should probably be on the screen. Zeroing it using Coupling=GND can help.
6. Check the trigger settings (personally I tend to use Normal mode instead of Auto, gives me more freedom, but means you have to play with it). This should include the source, slope direction, and trigger level (bug a TA if you don't know what trigger does).
7. Check peripheral settings, like Probe, Coupling, IS THE OSCILLOSCOPE RUNNING AND NOT STOPPED.

By now a signal should be showing up. If not, try getting the calibration signal on the oscilloscope.

If you don't know how to do any of these things, re-read the Equipment Tutorial.

Here are some other things to remember:
• Always monitor the input and the output. Don't assume the input is correct unless you can show on the oscilloscope that it is correct.
• Delays can be very, very small. Using the time zoom and the correct trigger settings is a good idea. And remember, always measure delays using the 50% voltage point between edges that cause each other. In some cases, this may be rising clock edge creating a falling signal edge. Measure using the manual cursors.
• Some of the function generators won't generate negative voltage signals. If your signal near ground looks really wavy on a square wave, try increasing the offset.
• First, assume you did something wrong. If everything checks out, try checking your equipment. You'd be surprised how many times a bad wire can really make your life miserable.

Think about what you expect to see before you see it.
That way, you can sanity check your results.