Three-Legged Square
CD Hepler

Sometimes, my smallest steel square is too big to fit into a drawer opening, shelf space, etc. Here's a handy tool for squaring corners I learned about on the internet somewhere.

Take a piece of hard wood (e.g., maple) about 1/4" thick and 1" wide (don't make it too wide). It can be any length, but 12-15" will yield a useful size tool that is small enough to fit where a try square might be too big. You can make a much larger one, but I usually just use a story pole to measure the diagonals of larger openings.

Cut a little more than 1/3 off of it. You now have two pieces, one a bit less than twice as long as the other, e.g., 7" and 4".

Attach the shorter piece dead center in the longer piece with a rivet or a small machine screw. (If you use a screw, peen the end so the nut can't loosen.) Fold the shorter leg so it is lined up with one end of the lon-ger piece. Trim points on the ends of both pieces with the same cuts (45 deg. is ideal.). Rotate the short piece to the other end and trim the other end to exactly the same length.

The pivoting arm will now rotate through an arc that is exactly the same length as the other two arms.

To use the tool, simply place it in a corner as shown in the Figure. If all three legs can touch the corner, it is square. If not, it's not.

If the center leg does not reach the corner, the angle is acute ($< 90°$). If the center leg and only one of the side legs can touch the work, the angle is obtuse ($>90°$). If you trimmed the ends at $45°$ they will show you whether the angle is acute or obtuse.

This tool is surprisingly accurate for its size. The longer the arms, the more accurate it should be.