

Week 13 (12/9/02)

Unchanged velocity

A ball rolls without slipping on a table. It rolls onto a piece of paper. You slide the paper around in an arbitrary (horizontal) manner. (It's fine if there are abrupt, jerky motions, so that the ball slips with respect to the paper.) After you allow the ball to come off the paper, it will eventually resume rolling without slipping on the table. Show that the final velocity equals the initial velocity.