1070-52-217 **Lily Du**, **Jessica Lord** and **Micaela Mendlow*** (mmendlow@gmail.com), Dept. Mathematics & Statistics, Smith College, Northampton, MA 01063, and **Emily Merrill**, **Joseph O'Rourke**, **Viktoria Pardey**, **Rawia Salih** and **Stephanie Wang**. *Solid-Coloring Objects Built From Rectangular Bricks.* Preliminary report.

Define a *brick* as a rectangle in 2D, a rectangular box in 3D, and the natural generalization to $\mathbb{R}^d$. An *object built from bricks* is a connected collection of bricks glued together whole-face-to-whole face. A *solid-coloring* of such an object colors each brick so that no two bricks that share a face have the same color. In $\mathbb{R}^2$, objects built from square bricks are 2-colorable, and objects built from rectangle bricks are 3-colorable. In $\mathbb{R}^3$, objects built from cube bricks are again 2-colorable, but we have only proved that objects built from rectangular-box bricks are 4-colorable, although we have no example that needs more than 3 colors. We will report on progress proving that special classes of 3D objects built from bricks are 3-colorable, and on generalizations to other brick shapes and to higher dimensions. (Received February 12, 2011)