erns and wallpaper patterns? Arrange the mirrors in another. Place symmetric in the region between the art of M. C. Escher. (See engraving. (See Pizzuto [14].) wallpaper and classify types of wallpaper patterns he reasons, including the choice of symmetry of various cultures. e variety of examples. For

7. Investigate tilings of the plane, which generalize wallpaper patterns. (See Grünbaum and Shephard [8].)

8. Investigate the symmetries of continuous (nondiscrete) frieze and wallpaper patterns. Try to classify types of such patterns.

9. In many cultures circular friezes appear as ornaments on cups and other cylindrical objects. Circular friezes replace the translations of friezes with rotations about a vertical axis. The seven frieze groups become seven subgroups of $D_n^r$.

a) Draw a frieze with symmetry group $pmm2$ on a sheet of paper. Roll the paper into a cylinder to create a circular frieze. Describe how the symmetries of the frieze become symmetries of the circular frieze. Explain why this circular frieze has $D_n^r$ for its group of symmetries. What determines the value of $n$ that a circular frieze has? Why do the symmetries of other circular...