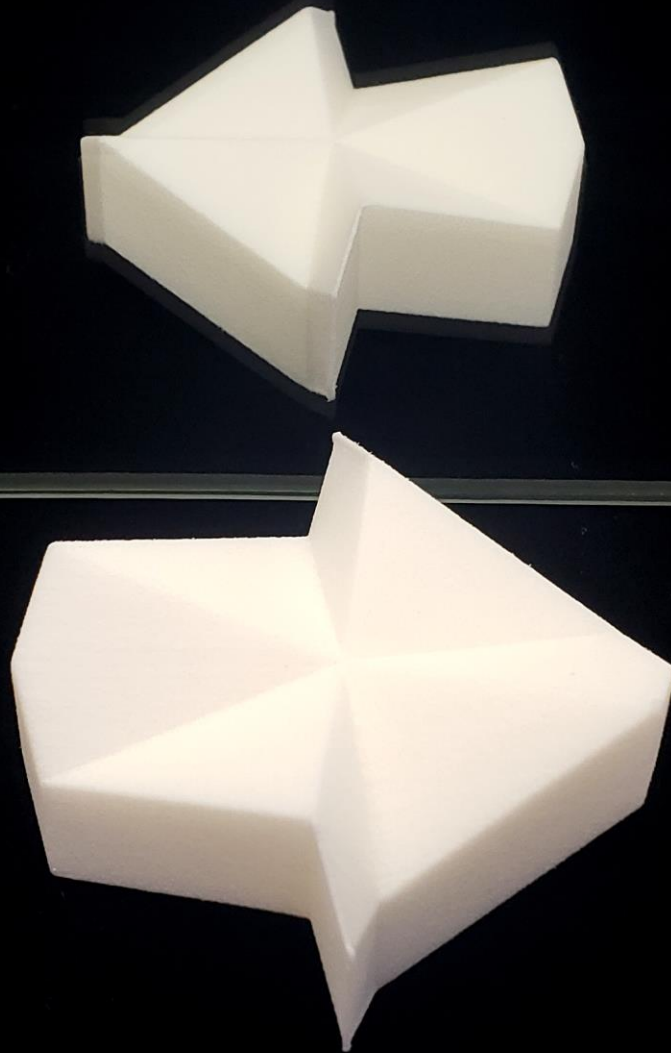


“Anomalous Mirror Symmetry” 3D optical illusions

www.sciencebuddies.org/teacher-resources/lesson-plans/design-3D-optical-illusions

Based on the work of Prof. Kokichi Sugihara

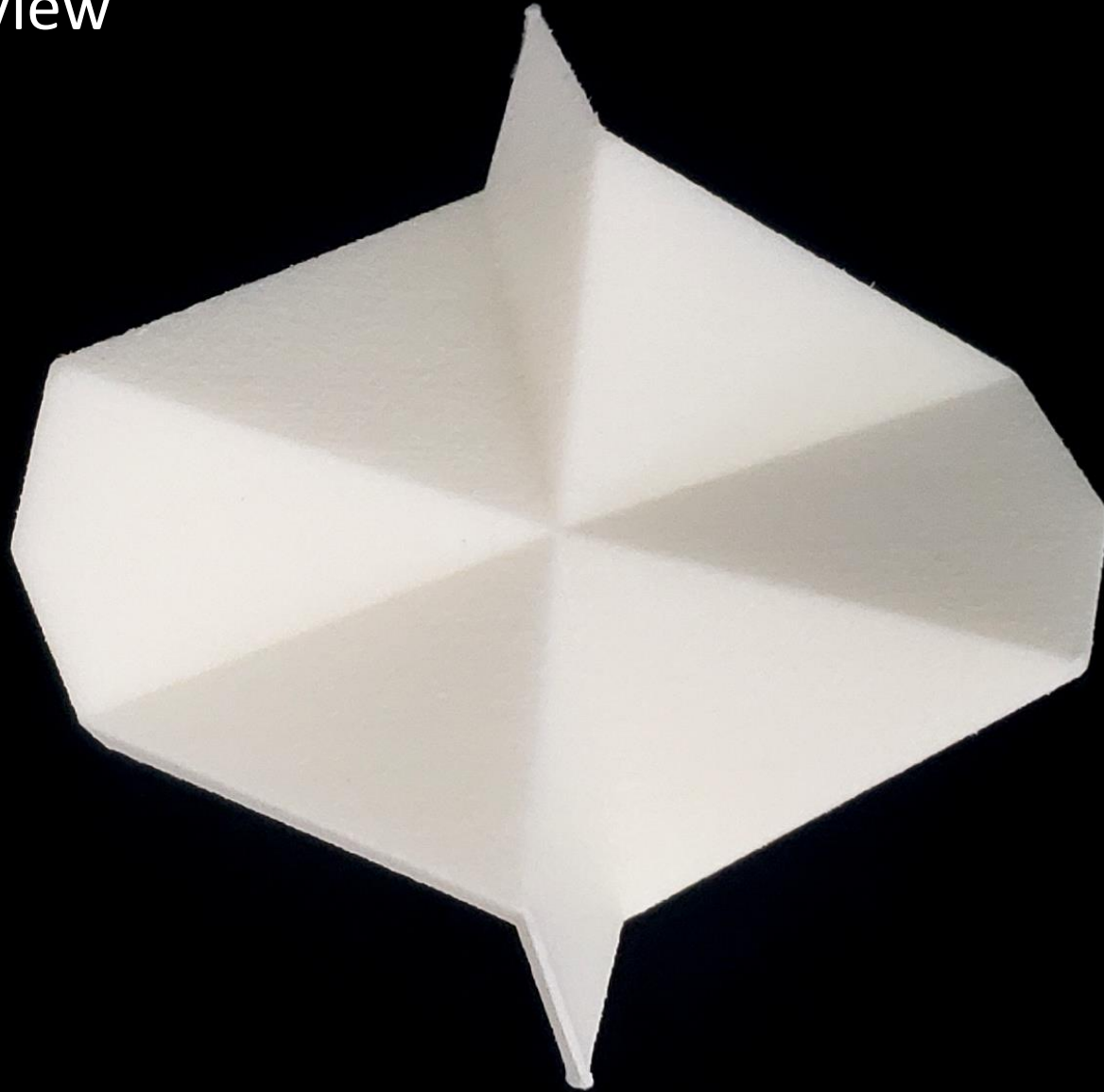
3D printed “impossible
arrow” in front of a mirror



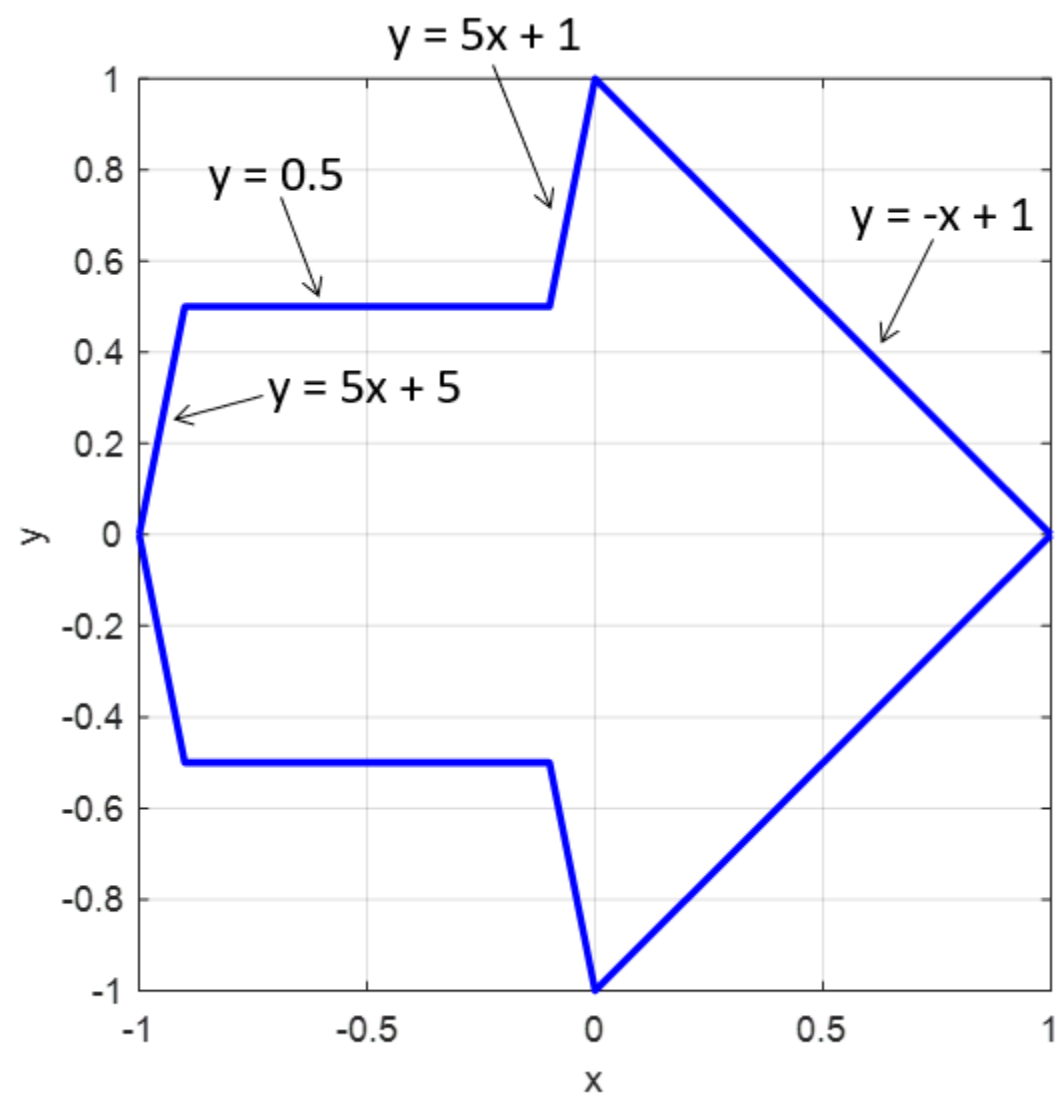
Side view



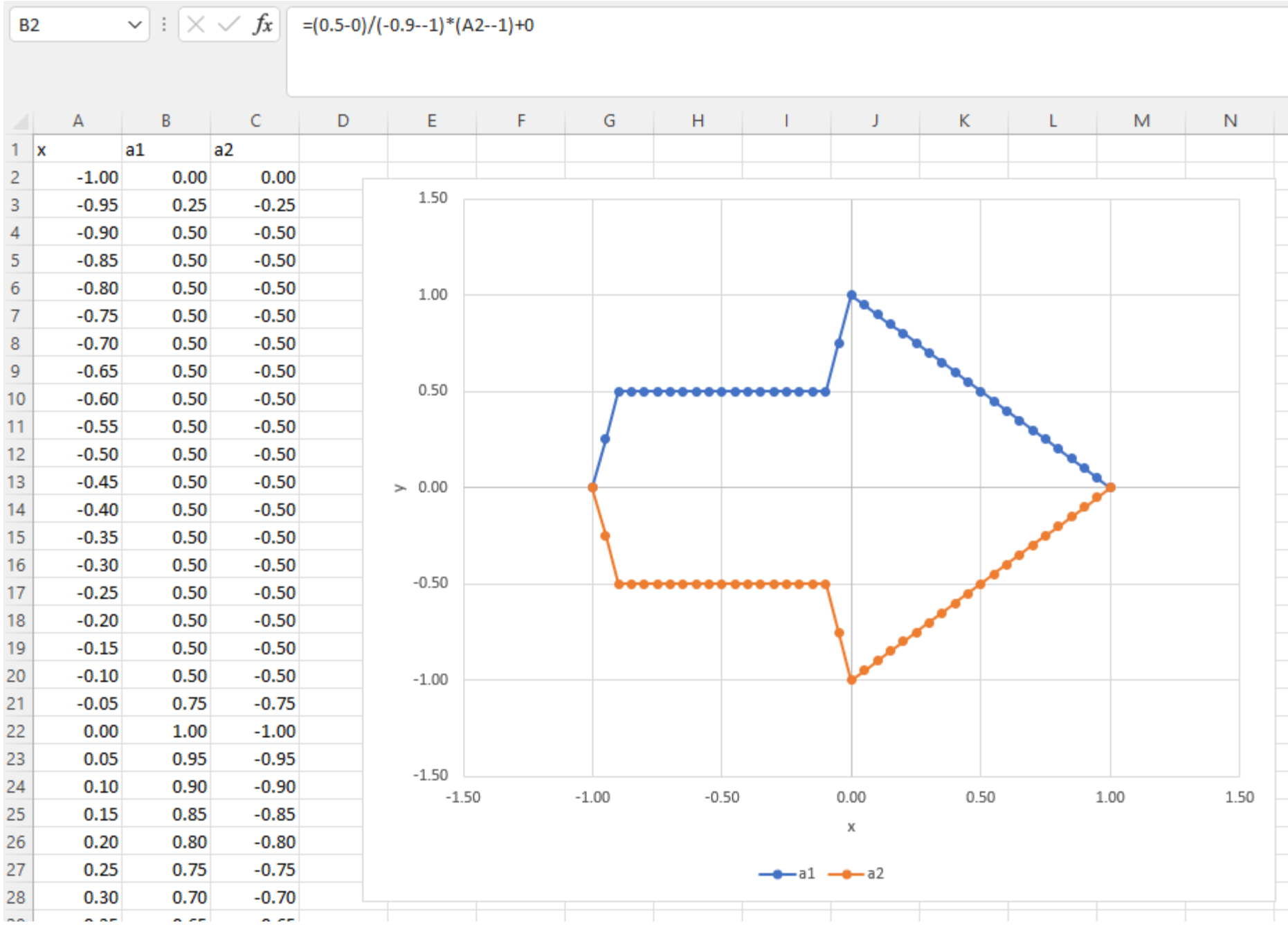
Top view



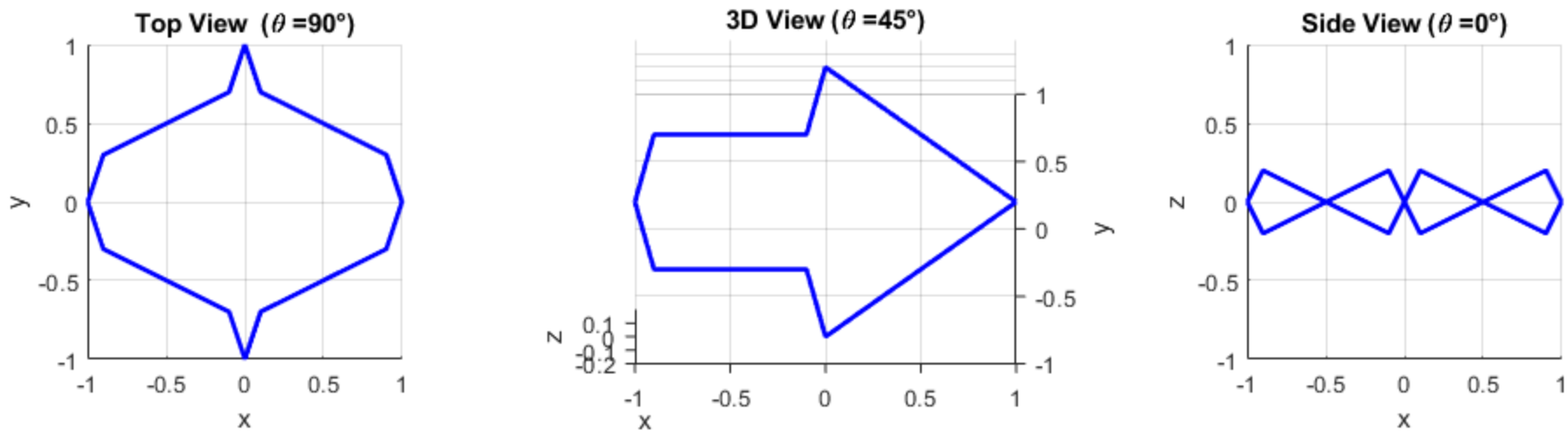
Outline of the 2D
arrow defined by
piecewise functions



Arrow plotted in a spreadsheet program using equations



Arrow after converting the 2D shape to a 3D shape to generate the optical illusion. It only looks like an arrow when viewed from the correct angle.



A solid 3D shape that can be 3D printed.

