ZMATH 2015e.00906

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The algebra artist.

Math. Teach. (Reston) 108, No. 4, 258-265 (2014).

Summary: Most people who are attracted to STEM-related fields are drawn not by a desire to take mathematics tests but to create things. The opportunity to create an algebra drawing gives students a sense of ownership and adventure that taps into the same sort of energy that leads a young person to get lost in reading a good book, building with Legos, playing a video game, or participating in a favorite hobby or sport. The Algebra Artist project described in this article for Algebra 1 Honors students asked for a minimum of twelve graphs to create the drawing. When an average of sixty-three graphs per student drawing were received, teachers knew that they had a project that captured student imagination, resulting in sustained effort, deep thinking, and authentic learning. Creating algebra drawings inspires students to see graphing holistically, helping them achieve a "graphing sense" on par with number sense for elementary school and middle school students. Emphasis is on experimentation, discovery, and informal learning. Although much of the student work goes deep into high school curricula, some of the language and ideas are kept deliberately informal and appropriate for first-year algebra students. (ERIC)

Classification: M80 H30 I20 G70 G40
Keywords: algebra; drawings; mathematics and art; activities; computer graphics; algebraic equations; graphs of a function; inequalities; reflections; symmetry; rotation; translation; dilation
http://www.nctm.org/publications/article.aspx?id=43377