

ZMATH 2012c.00420

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Informing practice: The proof is in the practice.

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From the introduction: Imagine an eighth-grade classroom where students are exploring relationships between the heights and areas of rectangles. They are investigating a special set of rectangles that grow in a particular way by iterating the height and length values so that the rectangles remain similar. The students create tables, comparing the rectangles' heights and areas, and notice something interesting: The second differences for the area are always constant, no matter what type of rectangle the students use. One student, Sara, makes the conjecture that this will be the case for any rectangle. This situation is ideal for giving students the opportunity to develop proofs.

Classification: E53

Keywords: proving; justifying; generalizing; foundations of mathematics; growing rectangles; perimeter; area; polygons; angles