Post-Assessment Tasks

A Lesson for Grades 3–5

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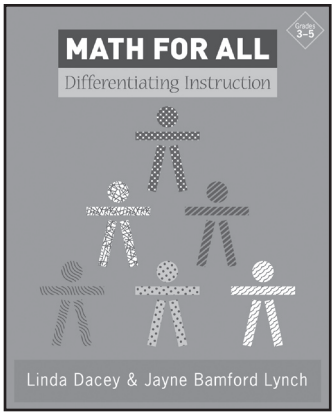

Open-ended problems can make for excellent post-assessment. Wondering how you can design effective post-assessment tasks for your students? This lesson gives a four-step plan, including a 3–5 sample task and corresponding authentic student responses. The lesson is adapted from Math for All: Differentiating Instruction, Grades 3–5, *by Linda Dacey and Jayne Bamford Lynch. Visit* www.mathsolutions.com *to learn more.*

Step I: Design a Task That Will Capture a Broad Range of Responses

Open-ended tasks allow students to control some of the difficulty level themselves. In the example task below, students may limit their consideration to only a few shapes or by focusing exclusively on two-dimensional shapes. Similarly, students may choose to use drawings, charts, or diagrams to communicate their ideas, or they may rely more on prose.

Sample 3–5 Task

What do you know about shapes? Write and draw to communicate your ideas.

Step II: Talk with Students About Task Expectations

As a whole class, create a list to guide students' work on the task.

Sample 3–5 List

- Focus on shapes.
- Use words and drawings to explain what you know.
- Use geometry vocabulary.
- Organize your ideas.
- Give several samples.
- Think about real-world connections.

Step III: Have Students Respond to the Task

After a brief discussion about the task expectations, students are normally eager to begin their task. Some students might think for a minute or so before beginning to record their ideas, but most begin immediately. Following are examples, including authentic student work, of how students responded to the above task.

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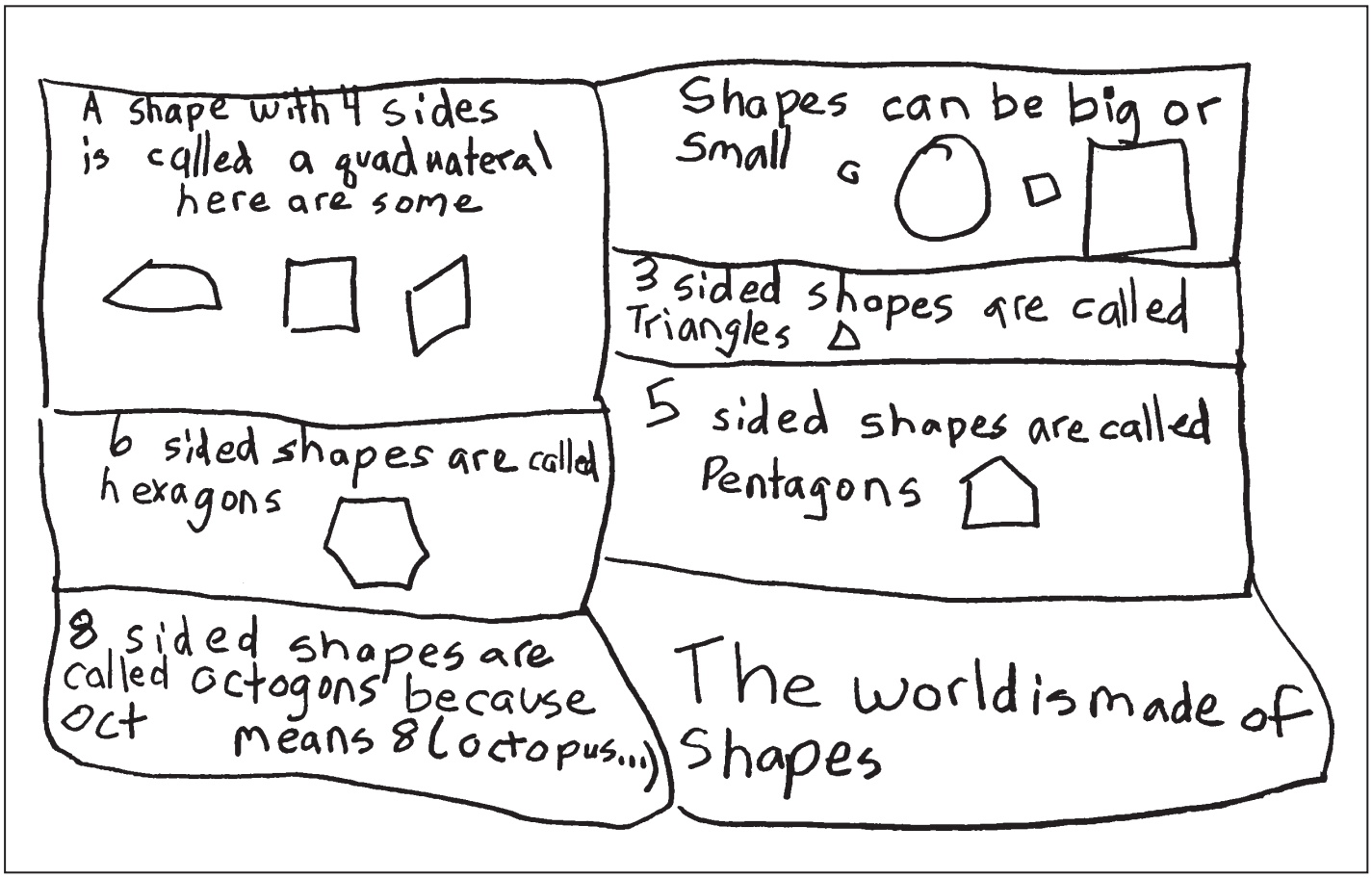
Sample 3–5 Responses

Some students used shape templates, while others preferred drawing freehand. Most students began by drawing a shape on their paper and then writing some words above or below it. A few students began by writing an idea or the name of a shape, which they then illustrated.

Response Sample 1: Two-Dimensional Shapes

Third grader Lisa's response focused on two-dimensional shapes. She classified shapes by their number of sides and provided the correct name for three-, four-, five-, six-, and eight-sided shapes. Though she did not name the shapes that she drew within her quadrilateral category, she did include a trapezoid, a square, and a parallelogram. She provided one example of a triangle, a pentagon, and a hexagon.



Third grader Lisa's response

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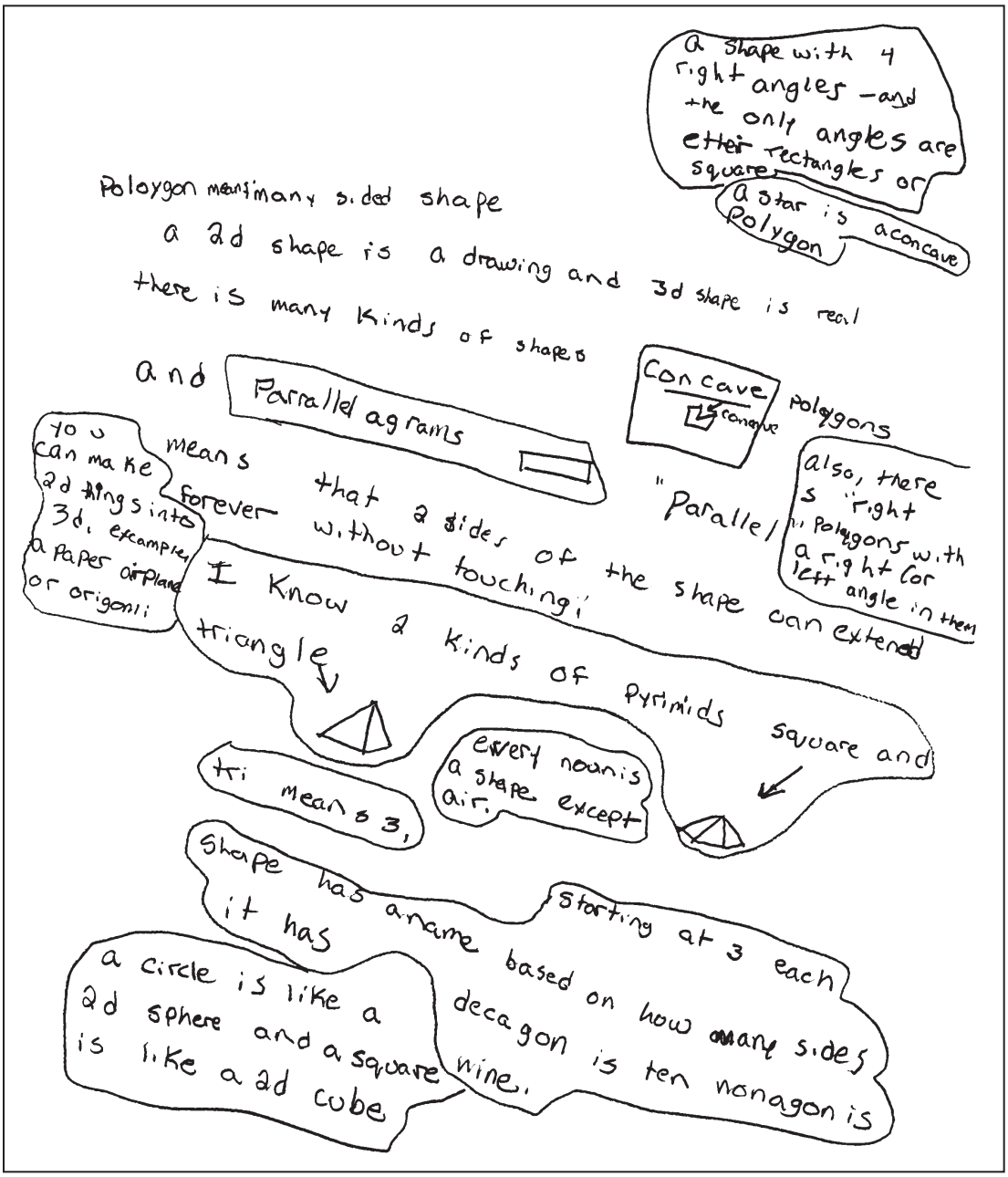
Response Sample 2: Two-Dimensional and Three-Dimensional Shapes

Fourth grader Tai included references to concave shapes and polygons, and made connections between two-dimensional and three-dimensional figures. He also introduced pyramids, right angles, and the term *parallel.* He was excited as he worked. He recorded one idea and then his eyes lit up as he thought of another. As these ideas were not necessarily related, he often recorded a thought and then drew a ring around it to separate it from his other recordings.



Fourth grader Tai's response

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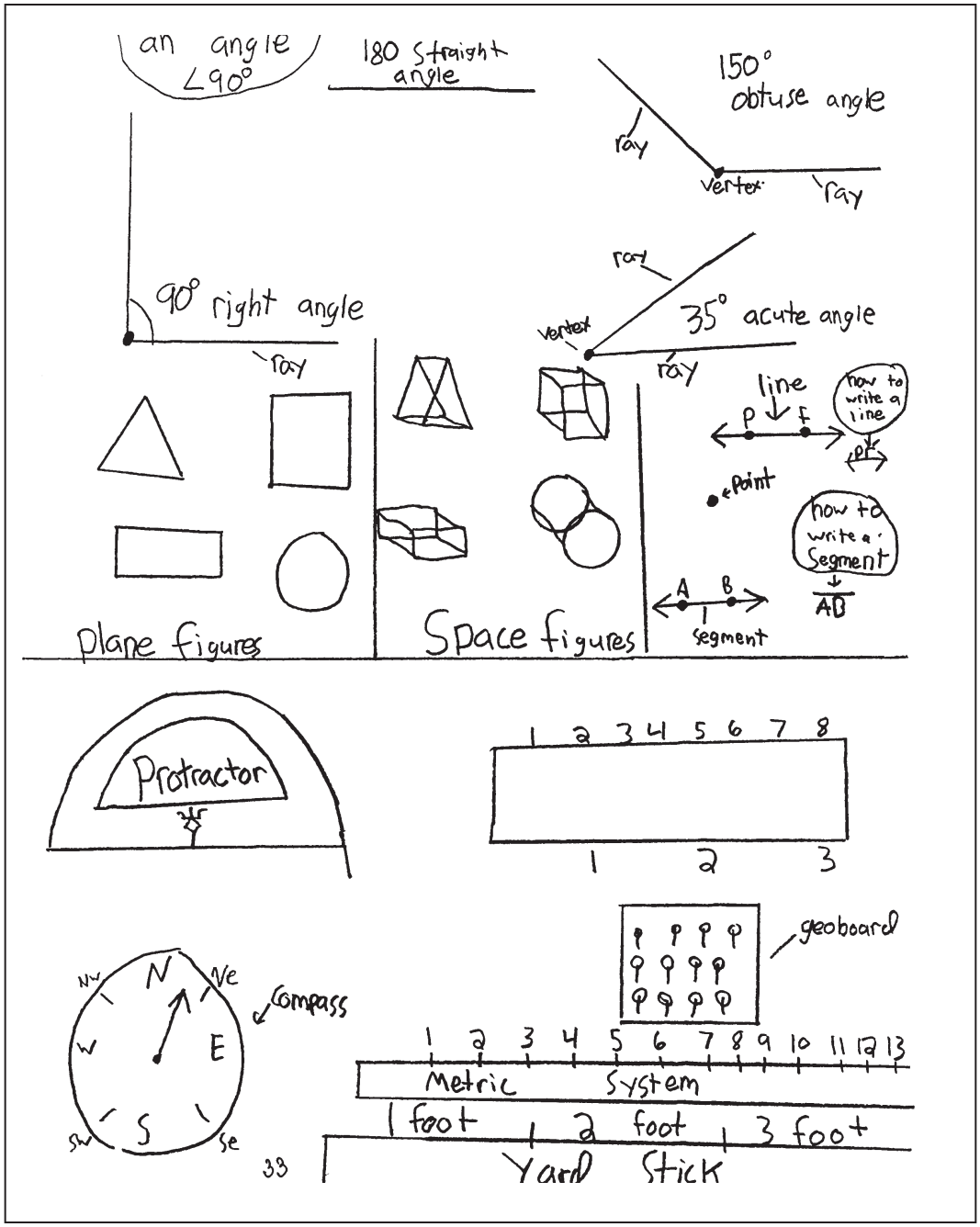
Response Sample 3: Shapes and Tools

Rafael's response was particularly interesting. Rafael was a strong visual learner. He often made diagrams to summarize the events in a story and his language often reflected his visual preference. Just that morning the teacher was listening to another student explain to Rafael why they should play soccer that afternoon instead of going on a bike ride. After Rafael heard the other student's reasoning, he replied, "OK, I see what you mean." Along with illustrating and labeling many geometric shapes and concepts, Rafael drew tools that he associated with geometry. Note his two representations that connect metric and English units along with the geoboard, compass rose, and protractor.



Fifth grader Rafael's response

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Step IV: Review Students' Responses and Plan Next Steps

Discover what each student chose to include; perhaps it is what he knows best, or what she believes is most important, or what he finds most interesting. Also note what concepts students did not provide evidence for, or for which the evidence is incomplete or inaccurate. Share your findings with other teachers. Look at the similarities and differences across grade levels. Following are observations and plans that teachers made upon reviewing responses to the sample task.

Sample Teacher Reviews and Plans

Teachers were amazed at the differences across the grade levels. The third-grade teacher was surprised by how much more complex the students' responses were in the upper grades. He noted that in his third grader Lisa's response (see Response Sample 1), the sides within her triangle, pentagon, and hexagon had approximately the same length and the figures were drawn with a base parallel to the bottom of the page. Such orientations are common; in fact, many students do not identify some of these figures when their sides are not congruent or when they are not placed in traditional positions.

The teachers decided to include this work in students' portfolios. Next year, they wanted the students' teachers to have these artifacts to help them determine readiness for future work in geometry. They were also interested in watching the evolution of students' work over time. Perhaps they could repeat the assignment later in the year, and the next year they might use it as both a pre- and post-assessment.

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