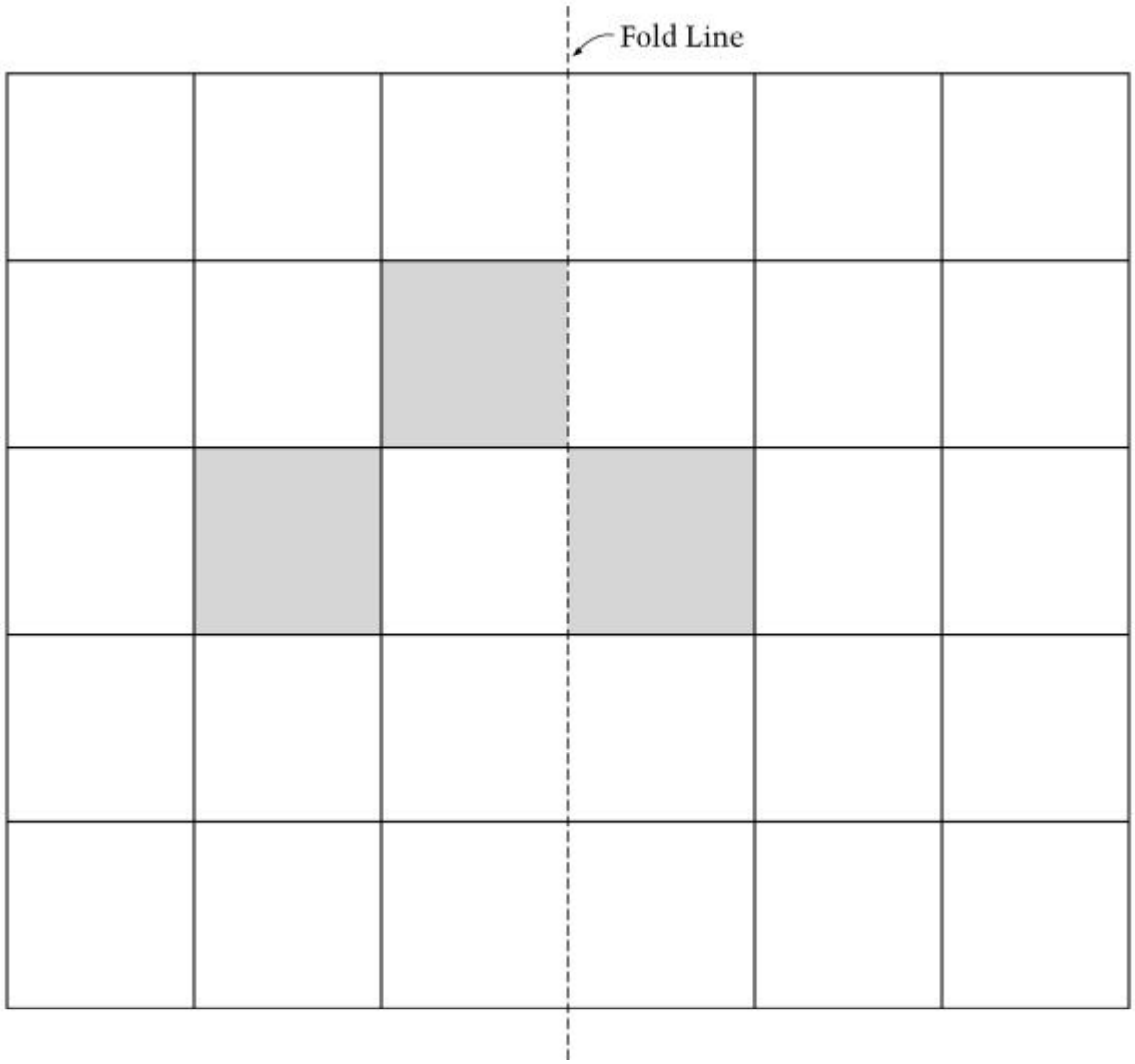
The following question refers to the additional materials you have been given. Please remove the materials from your packet and put them on your desk.

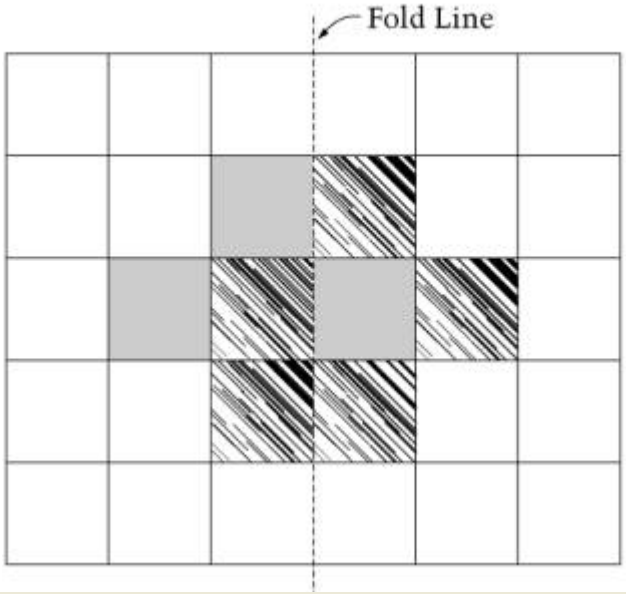
Shade five more squares on the grid below so that if your completed figure were folded along the fold line both sides would match.



Scoring Guide

Solution:

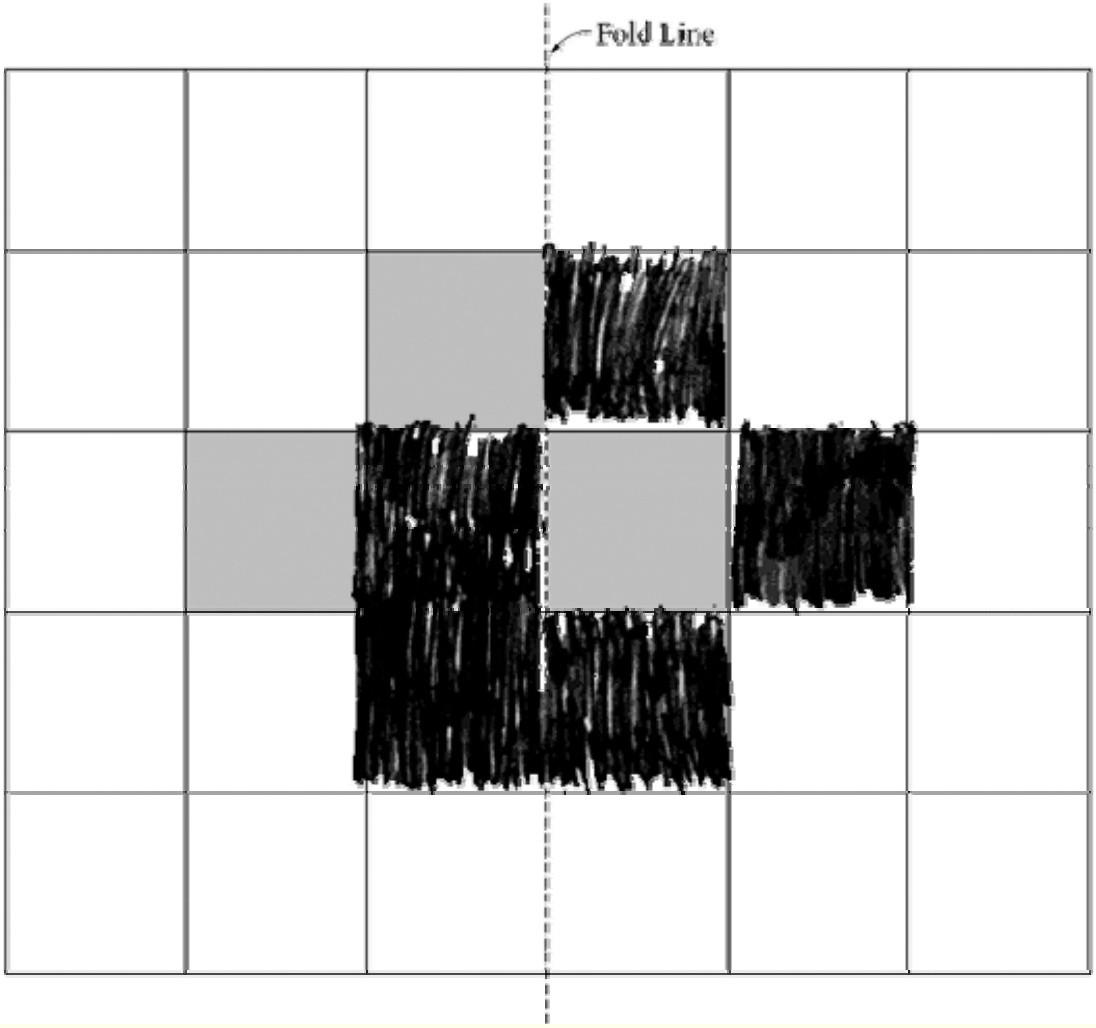
One possible solution.



Score & Description
Correct Correct response.
Partial Draws figure that is symmetric with respect to given fold line but does not use a total of 8 squares. OR Uses 8 squares to draw a symmetric figure but line of symmetry is not fold line. (however, line of symmetry must be vertical).
Incorrect Incorrect response.

Correct - Student Response

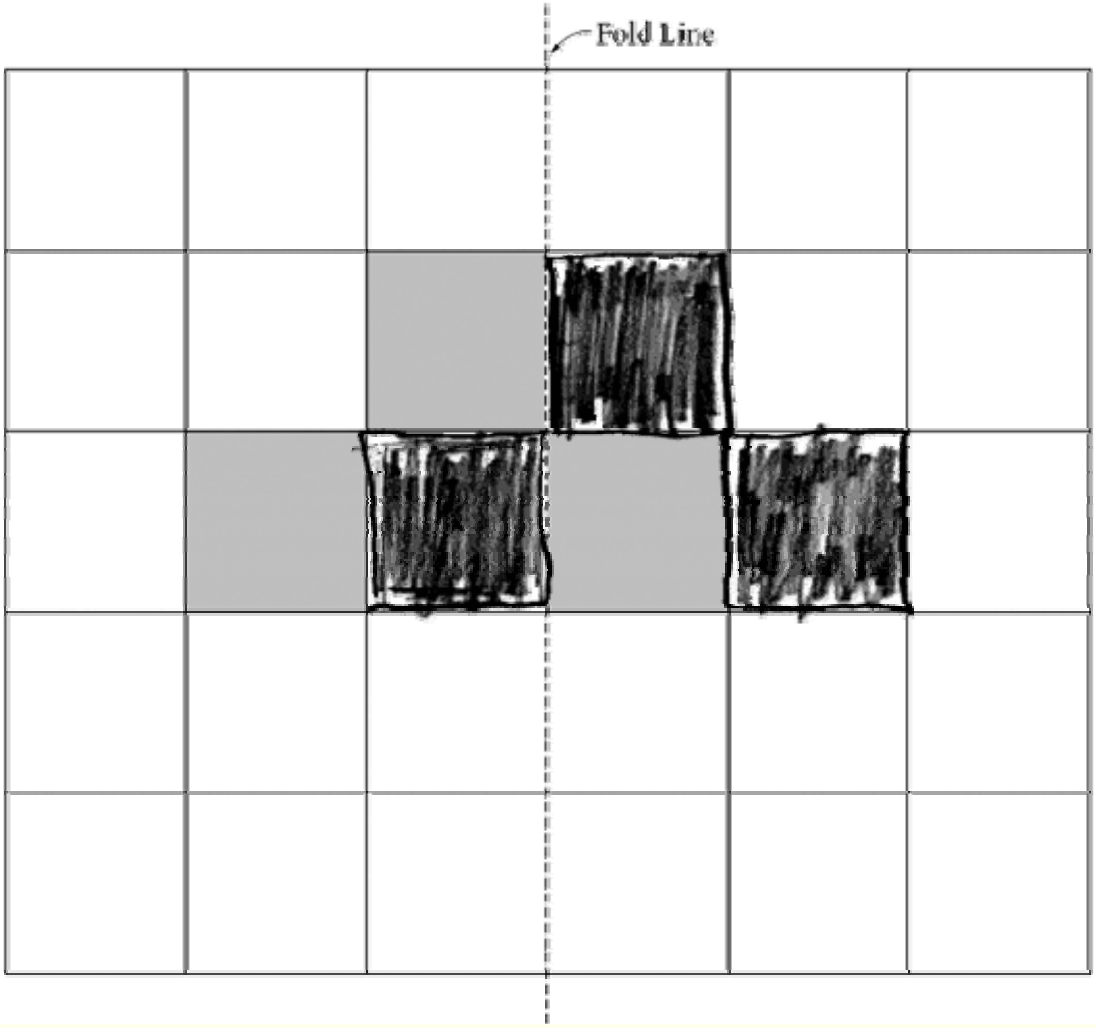
Shade <u>five</u> <u>more</u> squares on the grid below so that if your completed figure were folded along the fold line both sides would match.



Scorer Comments:
This response received full credit because the student correctly shaded five more squares to make a symmetric figure with respect to the given fold line.

Partial - Student Response

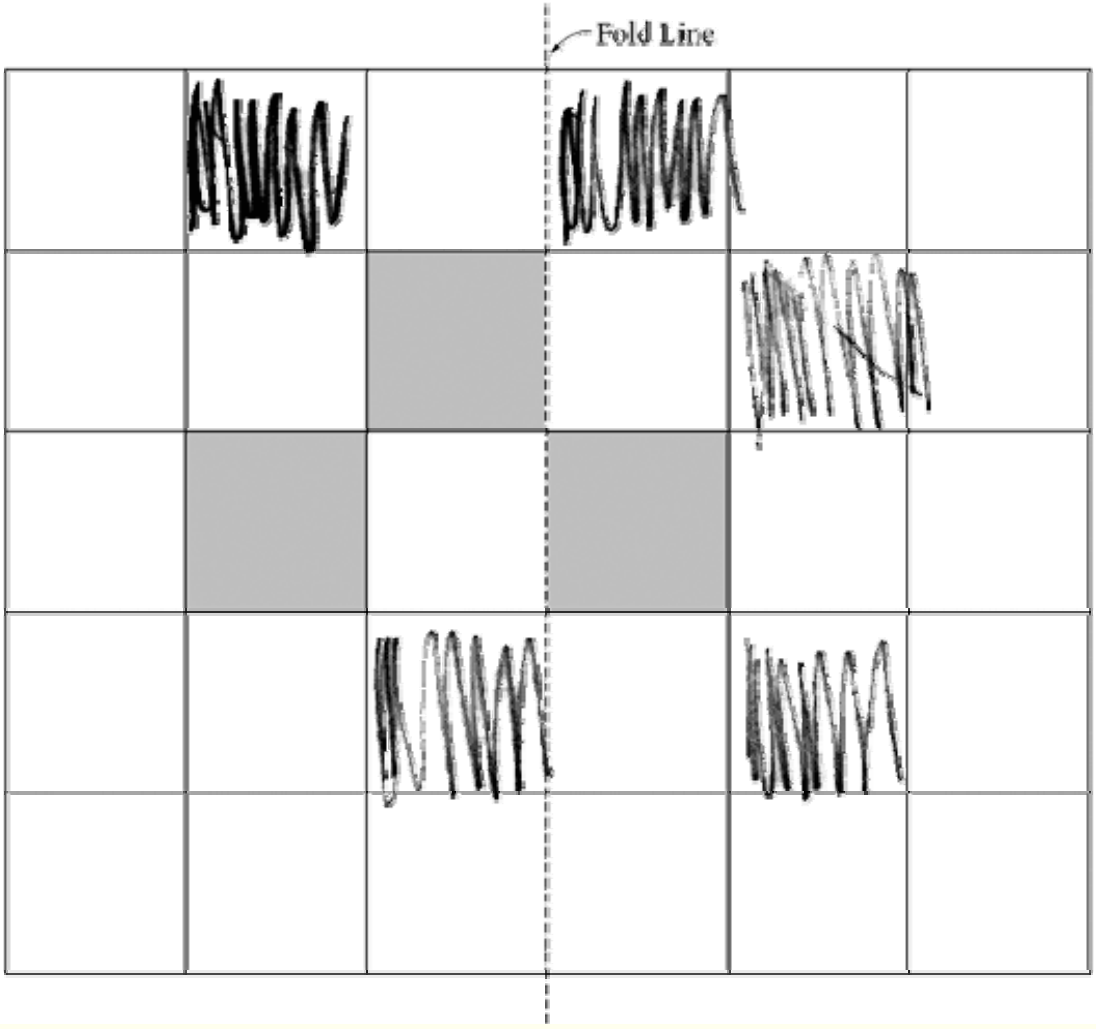
Shade <u>five</u> <u>more</u> squares on the grid below so that if your completed figure were folded along the fold line both sides would match.



Scorer Comments:
This response received partial credit because the student made a symmetric figure with respect to the given fold line, but they did not use a total of eight squares.

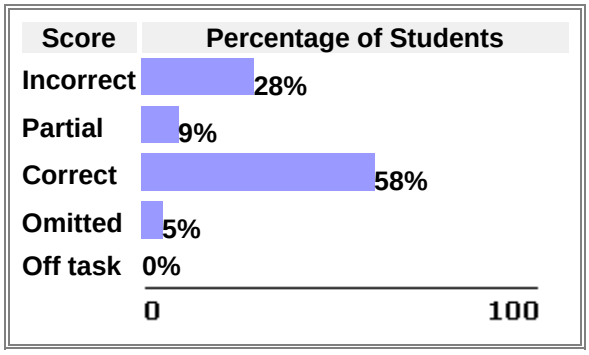
Incorrect - Student Response

Shade <u>five</u> <u>more</u> squares on the grid below so that if your completed figure were folded along the fold line both sides would match.



Scorer Comments:
This response received no credit because the figure the student made is not symmetric with respect to the given fold line.

2005 National Performance Results



Note:

- These results are for public and nonpublic school students.
- Percentages may not add to 100 due to rounding.

Mathematical Content Area: *Geometry* (Sub content classification:)
Mathematical Complexity: *Moderate Complexity*

Mathematical Content Area

Geometry

This content area focuses on identification of geometric shapes into transformations and combinations of those shapes. By grade 4, students are expected to be familiar with simple plane figures such as lines, circles, triangles, and rectangles, as well as solid figures such as cubes, spheres, and cylinders. They are also expected to be able to recognize examples of parallel and perpendicular lines. As students move to middle school and beyond, increased understanding should deepen of two- and three-dimensional figures, especially parallelism, perpendicularity, angle relations in polygons, congruence, similarity, and the Pythagorean theorem. Students at all grades are expected to show knowledge of symmetry and transformations of shapes and to identify images resulting from flips, rotations, or turns. Justifications and reasoning in both formal and informal settings are expected at grades 8 and 12.

Mathematical Complexity

Moderate Complexity

Items in the moderate-complexity category involve more flexibility of thinking and choice among alternatives than do those in the low-complexity category. They require a response that goes beyond the habitual, is not specified, and ordinarily has more than a single step. The student is expected to decide what to do, using informal methods of reasoning and problem-solving strategies, and to bring together skill and knowledge from various domains.

Description	Grade	Type	Difficulty
Shade a grid to form symmetric pattern	8th	Short Constructed Response	Easy