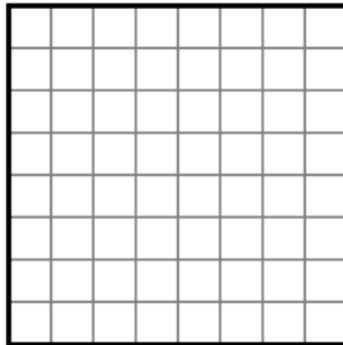# The Magic Checkerboard

Two siblings, Janelle and Terrence, are visiting their friends Amy and Sarah. Terrence has just won a game of checkers against Amy for the second time in a row.

"Hey Sarah," Amy said. "This checkerboard reminds me of the magic trick you showed me yesterday."

"Magic trick?" asked Janelle.

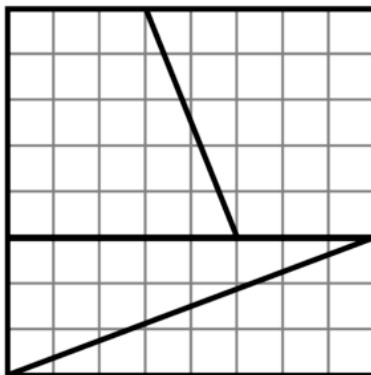"The one where you cut up the grid," Amy prompted her big sister. "Let's show Terrence and Janelle!"

"Okay," said Sarah, grinning. She picked up a big piece of paper and traced the checkerboard's 8×8 grid onto it.
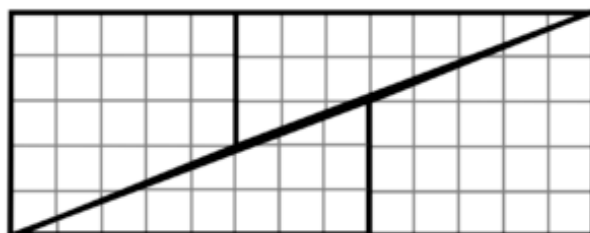
"How many squares are there?" she asked her friends.

"Easy," said Terrence. "8 times 8 is 64."

Then Sarah cut the grid along three lines:

And she rearranged them into a different rectangle:

"Now how many squares are there?" she asked.

"The rectangle is 5 by 13," said Janelle, "so it has 65 squares. … Uh-oh."

Amy laughed. "Pretty good, right?"

"Yeah!" agreed Terrence. "Where'd the extra square come from?"

Where *did* the extra square come from?