

The Penny Square Puzzle

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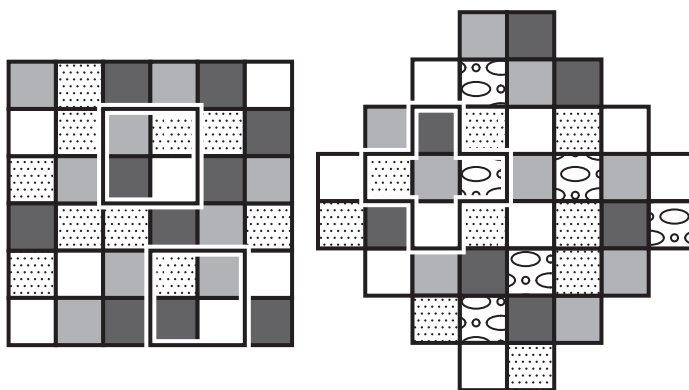
This month's *Puzzle Corner* activity is adapted from a puzzle in a book by Boris Kordemsky, *The Moscow Puzzles: 359 Mathematical Recreations*. (This book is available from Dover Publications.) According to Martin Gardner, the editor of the English translation of this book and scion of recreational mathematics in America, Kordemsky's work was "the best and most popular puzzle book ever published in the Soviet Union." Kordemsky was a high school mathematics teacher in Moscow who wrote other books besides this one. *The Moscow Puzzles* shows that recreational mathematics was alive and well in Russia during the time it was written in the early 1950s. The book has been translated into many other languages, putting it on par with works by Sam Loyd and Henry Ernest Dudeney, the great American and English puzzle creators and popularizers.

Like many mathematical puzzles, *The Penny Square Puzzle* will take persistence and creativity to solve. In the puzzle, students are shown 12 pennies arranged to form a square with four pennies on each side. They are then challenged to use 12 pennies to form a square with five pennies on each side. While at first the puzzle seems impossible, creative thinking, logic, and working with 12 pennies should lead to a solution. While some students may be able to solve this puzzle without manipulating pennies, most students will benefit from using pennies or some other similar manipulative.

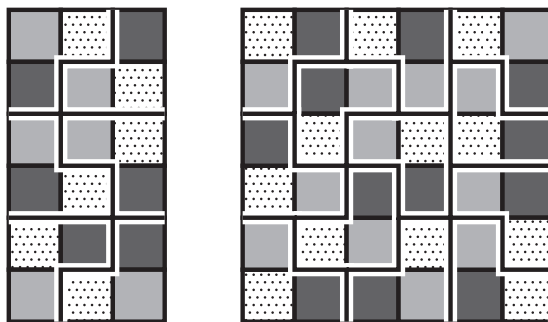
I hope that you and your class find this *Puzzle Corner* activity challenging, but enjoyable. The solution will appear in the next issue. If you need the solution before then, or have any other questions or comments, please contact me at dyoungs@fresno.edu or at the AIMS address or phone number found on the back cover of this magazine.

Last Issue's Puzzle

In *Seeking Shapes*, students were challenged with two kinds of puzzles. On the first page, the goal was to find the shapes within larger shapes that contained all four (or five) kinds of squares. The solutions are shown here.



On the second page, the goal was to find the L-shaped pieces that made up each larger shape. Each L-shaped piece consisted of one square of each color. The solutions are shown here.



THE PENNY SQUARE PUZZLE

The illustration below shows 12 pennies arranged to form a square with four pennies on each side. The challenge in this puzzle is to arrange 12 pennies so that they form a square with five pennies on each side. When you have solved this puzzle, sketch your solution on the back of this sheet.



Bonus Challenge: Arrange the pennies to form a square with six pennies on each side.