

Deductive Puzzling Activity

5						10	4						4
3		2							2	2			
		4		9					9	6			
				4		2					6	6	
						6					2	4	
	3	8						3					
	4	4						4					
				4	2				4		6		
				4	2						6		6
8						6	8					2	

Shikaku Puzzle Rules

1. Subdivide the large square along the grid lines into rectangular regions
2. Only one number can appear in each rectangle
3. Each square on the grid can be used in only one rectangle (no rectangles can overlap)

Find 20 rectangles in the above Shikaku puzzle. For each rectangle, use the following to justify the rectangle's dimensions and orientation:

- “I know” and “If...then...” language
- The facts of factor pairs, prime numbers, and composite numbers
- The Shikaku puzzle rules

[illegible]

Use additional sheets of paper to complete the project.

Deductive Puzzling Rubric

	Shikaku Puzzle Rules 1. Subdivide the large square along the grid lines into rectangular regions 2. Only one number can appear in each rectangle 3. Each square on the grid can be used in only one rectangle (no rectangles can overlap)
--	---

Find 20 rectangles in the above Shikaku puzzle. For each rectangle, use the following to justify the rectangle's dimensions and orientation:

- “I know” and “If...then...” language
- The facts of factor pairs, prime numbers, and composite numbers
- The Shikaku puzzle rules

Criteria	5	4	3	2	1	Points
Puzzle Completion	Correctly identify 17-20 rectangles	Correctly identify 13-16 rectangles	Correctly identify 9-12 rectangles	Correctly identify 5-8 rectangles	Correctly identify fewer than 5 rectangles	__ x 2 = __
Content	Correctly justified the dimensions and orientation for 10 or more rectangles	Correctly justified the dimensions and orientation for 8-9 more rectangles	Correctly justified the dimensions and orientation for 6-7 or more rectangles	Correctly justified dimensions and orientation for 4-5 or more rectangles	Correctly justified dimensions and orientation for 3 or less rectangles	__ x 2 = __
Language	Used appropriate mathematical language for most justifications	X	Used appropriate mathematical language in at least half of the justifications	X	Used appropriate mathematical language in less than half of the justifications	__ x 1 = __
Total Points						__ / 25