
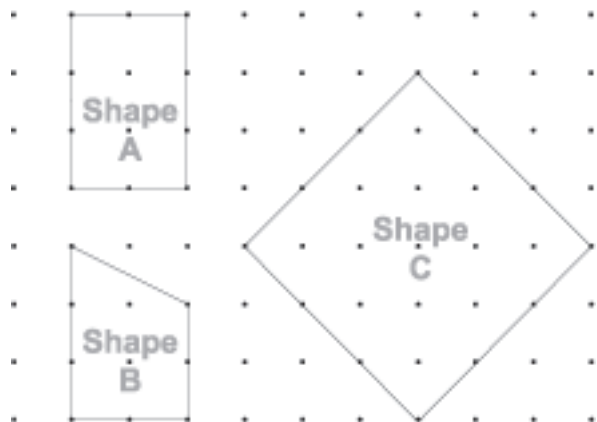


Reasons Logically

This task assesses your ability to **reason logically**. You will show your best work when you:

- *Read the task completely before starting.*
- *Find the area of each shape, then verify your calculations.*
- *Use words, numbers, and pictures to explain your thinking.*
- *Review the reflections section after you complete the task.*

Mystery Area! Look at Shapes A, B, and C, shown on the geoboard below. Determine the area of each shape.  = 1 square unit




Area of Shape A _____

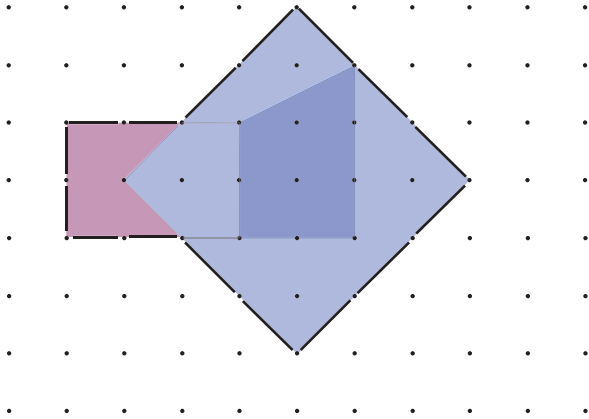
Area of Shape B _____

Area of Shape C _____

How did you determine the area of Shape C? Justify your solution with words, numbers, and pictures.

Reasons Logically: Mystery Area continued ...

On the geoboard below, Shapes A, B, and C are overlapped to make a new shape. Find the area of the new shape.  = 1 square unit



Area of new shape _____

How did you determine the area of the new shape? Justify your solution with words, numbers, and pictures.

Reflections

My response is good because I ...

- identified the area of each shape;
- used words, numbers, and pictures to justify my solution for the area of Shape C;
- justified my solution for the area of the new shape.

2002 Math Power Scoring Guide: Mystery Area • Reasons Logically • Grade 5

	Criteria	4 Points <i>very fine work</i>	3 Points <i>fully acceptable work</i>	2 Points <i>partially acceptable</i>	1 Point <i>response attempted</i>	0 Points <i>none or insufficient</i>
Results	Are correct, labeled solutions given for the area of each shape?	<ul style="list-style-type: none"> Correctly identifies all numerical solutions and labels solutions as square units; AND 	<ul style="list-style-type: none"> Correctly identifies all numerical solutions or shows 1 minor calculation error and may not label as square units; AND 	<ul style="list-style-type: none"> Correctly identifies the areas of at least 3 shapes and calculations for one of the three correct areas may include a minor error and may not label as square units; AND 	<ul style="list-style-type: none"> Correctly identifies the area of at least one shape and may not label as square units; AND 	<ul style="list-style-type: none"> Does not identify a solution or all solutions are incorrect; OR
Justify	Does the student justify the area of Shape C with words, pictures, and numbers?	<ul style="list-style-type: none"> Clearly and completely justifies the area of Shape C using words, numbers and pictures; AND 	<ul style="list-style-type: none"> Justifies the area of Shape C, but justification is incomplete; AND 	<ul style="list-style-type: none"> Attempts to justify the area of Shape C, but explanation may be flawed; AND 	<ul style="list-style-type: none"> Attempts to justify the area of Shape C but may include major errors; OR 	<ul style="list-style-type: none"> No attempt to justify the area of Shape C or explanation contains major errors; OR
	Does the student justify the solution for the area of the overlapping shape with words, pictures, and numbers?	<ul style="list-style-type: none"> Clearly and completely justifies the area of the overlapping shape using words, numbers and pictures. 	<ul style="list-style-type: none"> Justifies the area of the overlapping shape, but justification is incomplete. 	<ul style="list-style-type: none"> Attempts to justify the area of the overlapping shape, but may be flawed or if overlapping shape is not one of the three correct areas, may not attempt to justify. 	<ul style="list-style-type: none"> Attempts to justify the area of the overlapping shape, but may include major errors. 	<ul style="list-style-type: none"> No attempt to justify the area of the overlapping shape or explanation contains major errors.

Solution Notes:

Shape A = 6 square units
 Shape B = 5 square units
 Shape C = 18 square units
 Shape ABC = 21 square units

Drawing and/or labeling on the geoboard might look similar to these examples:

