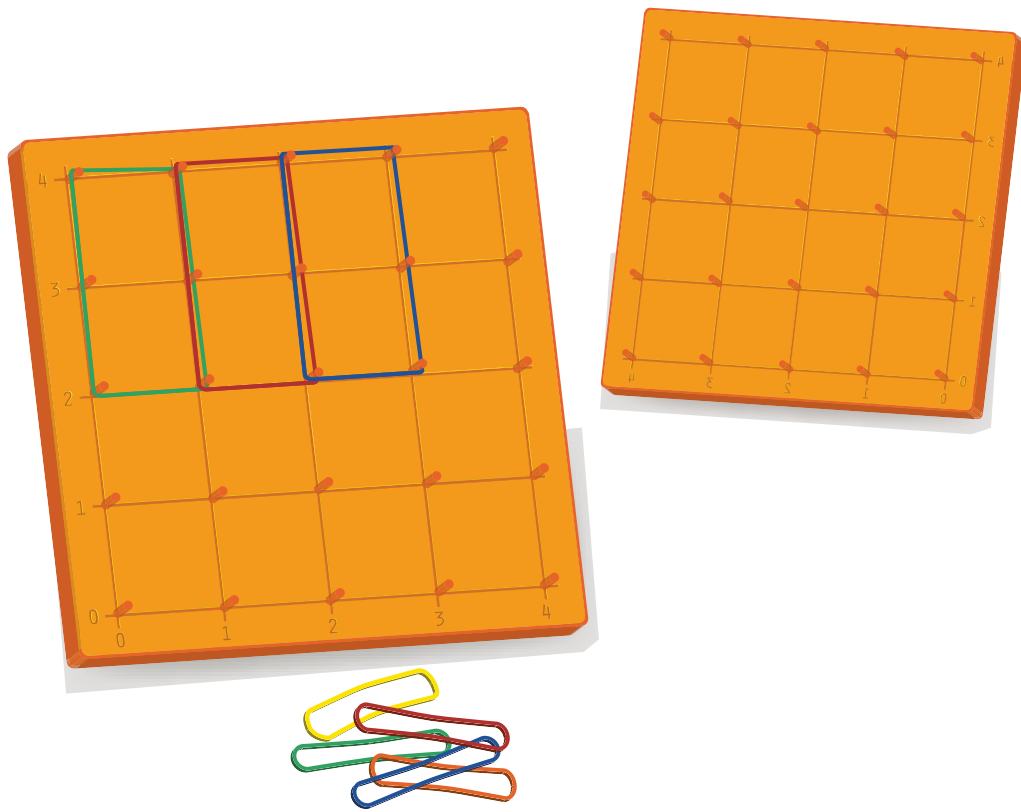


Math Tasks with Geoboards



Alignments

ACTIVITIES - 86588

Page	Activity Name	Description	Math Strand	Topics
12	Finding Shapes and Symmetry	Students use their Geoboards to create designs that have different types of symmetry.	Problem Solving, Communication, Reasoning, Connections, Geometry	Congruence, Symmetry, Transformational Geometry
16	Comparing Areas	Students will build different rectangles, triangles, and parallelograms with the same base and height. They will use information collected to derive area formulas.	Problem Solving, Communication, Reasoning, Connections, Geometry	Number, Patterns, Counting
20	Peg Capture	In this game for two players, students use a coordinate system to name and locate Geoboard pegs. Then they play a game in which the object is to get four markers lined up horizontally, vertically, or diagonally.	Problem Solving, Communication, Reasoning, Connections, Geometry, Logic	Game Strategies, Using a Coordinate System
24	Piecing Together the Puzzle!	In this two-player game, students work together to build polygons made up of rectangles and triangles on a Geoboard. They then subtract the polygon's surrounding area from the total to find the area of the polygon.	Problem Solving, Communication, Reasoning, Connections, Geometry	Area, Right Triangles, Quadrilaterals, Polygons
28	Squares Around a Triangle	Students examine squares built on the sides of right triangles made on a Geoboard. Then they look for a relationship among the areas of the squares.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Patterns/Functions	Area, Properties of Right Triangles

CHALLENGE ACTIVITIES - 86588

Page	Activity Name	Description	Math Strand	Topics
32	Shelf Brackets	Students search for all the different-sized right triangles that can be made on the Geoboard. They find the area of each of their triangles, and then use the triangles to solve a problem involving triangular shelf supports.	Problem Solving, Communication, Reasoning, Connections, Geometry, Logic, Measurement, Number	Area, Right Triangles, Spatial Reasoning
38	Hydroponics	Students search to find all possible isosceles triangles that can be formed on a circular Geoboard. They then look for patterns and relationships among the triangles.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement	Chords and Arcs, Similarity, Properties of Isosceles Triangles, Inscribed and Central Angles
44	Star Search	Students create polygons on the circular Geoboard and investigate patterns formed by their diagonals.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Patterns/Functions	Properties of Geometric Figures, Angle Measures of Polygons, Looking for Patterns, Spatial Reasoning

CHALLENGE ACTIVITIES - 86588

Page	Activity Name	Description	Math Strand	Topics
50	Spider Web Site	Students investigate the angle measures of polygons that can be inscribed in a circular Geoboard.	Problem Solving, Communication, Reasoning, Connections, Geometry, Logic, Measurement	Congruence, Inscribed Polygons, Inscribed Angles, Interior Angles of Polygons
56	Wholes and Holes	Students determine the area of a quadrilateral on a Geoboard using Pick's Theorem. Then students create and determine the area of a donut-shaped region formed by polygons.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Number	Area, Pick's Theorem
62	The Square Challenge	Students search to find all the different-sized squares that can be made on a Geoboard. They then investigate ways to determine the lengths of the sides of their squares.	Problem Solving, Communication, Reasoning, Connections, Geometry, Logic, Measurement, Number	Area, Spatial Reasoning, Square Roots
68	Glass Triangles	Students search to find all possible areas of triangles that can be made on a Geoboard. They then investigate combinations of triangles to completely cover the Geoboard.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Number	Area, Congruence, Spatial Visualization
74	Peanut Brittle	Students divide the Geoboard into regions and find the fractional part of the whole Geoboard represented by each region.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Number	Area, Equivalence, Fractions
80	Geo Gardens	Students search for different ways to partition the Geoboard into congruent and noncongruent fourths and then eighths.	Problem Solving, Communication, Reasoning, Connections, Geometry, Number	Area, Congruence, Fractions, Spatial Visualization
86	Pythagoras Delivers the Mail	Students examine squares built on the sides of right, obtuse, and acute Geoboard triangles. They look for relationships between their areas and the type of triangle.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Number, Patterns/Functions, Probability/Statistics	Area, Pythagorean Theorem, Properties of Triangles
92	Polygons, Pegs, and Patterns	Students create a variety of polygons on their Geoboards, having specified numbers of boundary pegs and interior pegs. They then find the areas and search for patterns.	Problem Solving, Communication, Reasoning, Connections, Geometry, Patterns/Functions, Probability/Statistics	Area, Pick's Theorem, Using Patterns, Writing Formulas
98	The Airline Connection	Using circular Geoboards, students create polygons, make their diagonals, and look for a way to relate the number of diagonals in a polygon to the number sides in the polygon.	Problem Solving, Communication, Reasoning, Connections, Geometry, Patterns/Functions, Probability/Statistics	Pattern Recognition, Properties of Polygons, Spatial Visualization, Writing Formulas
104	Pascal Pastimes	Students search for all possible paths that can be made from a corner peg on a Geoboard to each of the other pegs. They perform a probability experiment with Color Tiles relating results to the first activity.	Problem Solving, Communication, Reasoning, Connections, Patterns/Functions, Probability/Statistics	Analyzing Data, Making Predictions, Collecting and Organizing Data, Pascal's Triangle, Pattern Recognition, Experimental and Theoretical Probability