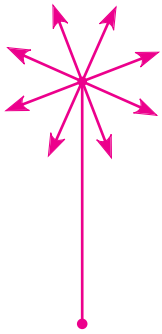
Name _____

Line Art

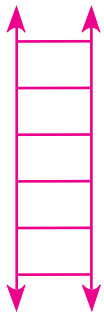
Use geometric figures to draw each of the following.

Possible drawings are shown.

1. A flower using 1 line segment and 8 rays.

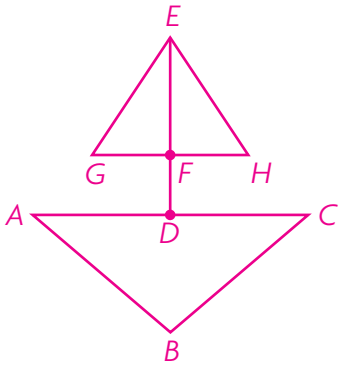


2. A sidewalk using 2 lines and 6 line segments.



3. Use geometric figures to draw your own design. Choose from points, lines, rays, segments, and angles.

Designs will vary. Possible answer is shown.



4. Write Math Describe your design in Problem 3. Include the names of the figures you chose.

Possible description: draw obtuse $\angle ABC$ so that its apex, B, points down. Then draw $\overline{AC}$. Draw point D at the center of $\overline{AC}$. Draw point E directly above point D, and draw $\overline{DE}$. Draw point F on $\overline{DE}$, closer to D. Draw acute $\angle EGF$ and acute $\angle EHF$. I used points, angles, and line segments.

Name _____

Triangle Living

In the space below, draw a living room design using only acute, right, and obtuse triangles. Then color the acute triangles one color, the right triangles a second color, and the obtuse triangles a third color.

Answers will vary. Check students' drawings.

Stretch Your Thinking How could you use the triangles to create rectangles and squares?

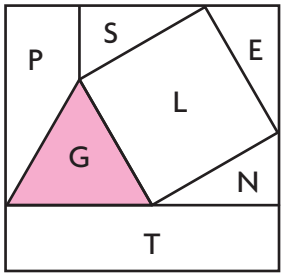
Possible answer: use two right triangles that are the same size, and join them along their longest sides to make a rectangle. To make a square, the right triangles must also have two sides of equal length.

Name _____

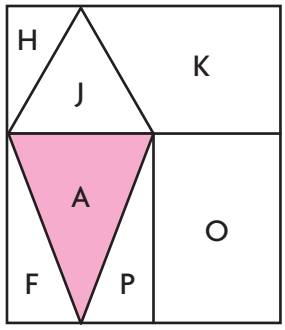
The Great Triangle Mystery

Eli has hidden a treasure somewhere in a house. It is your job to find the treasure. Read the clue in each box. Then shade the triangle that matches the clue. Write the letter of the shaded triangle on the lines below. Where is the treasure hidden?

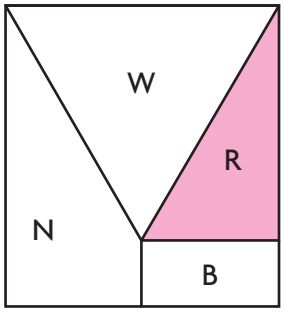
Letter 1 is written on an equilateral triangle.



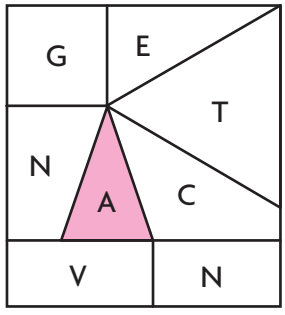
Letter 2 is written on an isosceles triangle.



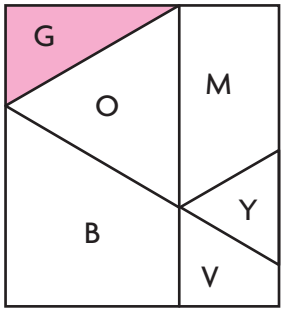
Letter 3 is written on a scalene triangle.



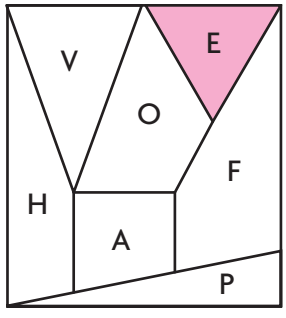
Letter 4 is written on an isosceles triangle.



Letter 5 is written on a scalene triangle.



Letter 6 is written on an equilateral triangle.



Where is the treasure hidden?

G	A	R	A	G	E
Letter 1	Letter 2	Letter 3	Letter 4	Letter 5	Letter 6

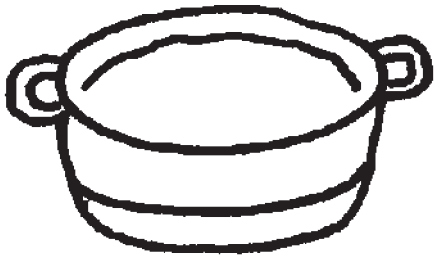
Name _____

Alphabet Soup

Use all 26 capital letters of the alphabet. Place them into as many "soups" as possible.

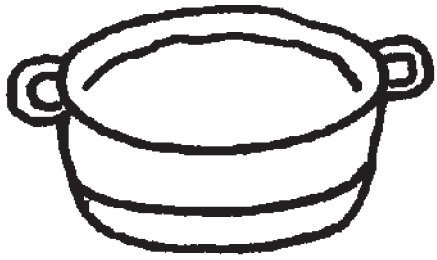
Possible answers are given.

1. Letters with parallel line segments



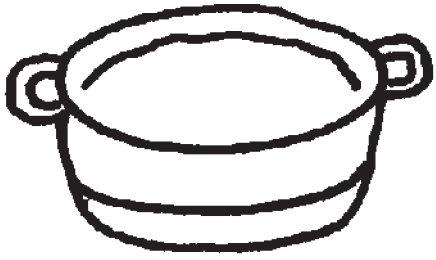
E, F, H, M, N, Z

2. Letters with perpendicular line segments



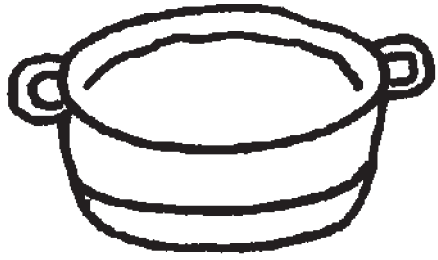
E, F, H, L, T

3. Letters with intersecting, but not perpendicular, line segments



A, K, M, N, V, W, X, Y, Z

4. Letters with no parallel, perpendicular, or intersecting line segments



B, C, D, G, I, J, O, P, Q, R, S, U

Name _____

Quad Logic

Read each statement carefully. Write *true* or *false*.

1. Some parallelograms are rectangles. true
2. All trapezoids are parallelograms. false
3. All squares are rectangles. true
4. Some quadrilaterals are trapezoids. true
5. Some rectangles are rhombuses. true
6. All rhombuses are squares. false
7. Some parallelograms are trapezoids. false
8. All rectangles are squares. false

Make each statement true. Write *All, No,* or *Some*.

9. All rectangles are parallelograms.
10. No squares are trapezoids.
11. All parallelograms are quadrilaterals.
12. Some quadrilaterals are parallelograms.

13. **Stretch Your Thinking** Write three of your own quad-logic statements. Then exchange them with a classmate and complete each other's statements.

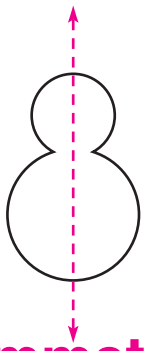
Check students' work.

Name _____

Swimming Pool Symmetry

The owner of the Seaside Symmetry Resort is designing a new swimming pool. The owner wants the pool to have line symmetry. Tell if each swimming pool design below appears to have line symmetry. If it does, draw a line or lines of symmetry.

1.

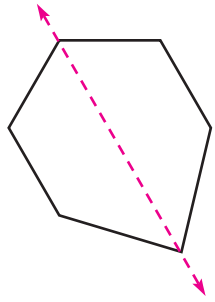


symmetry

2.

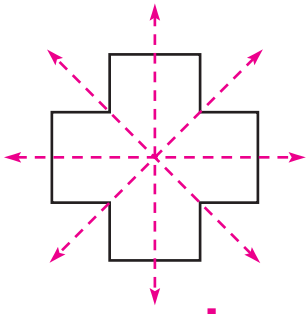
no symmetry

3.



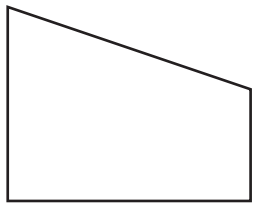
symmetry

4.



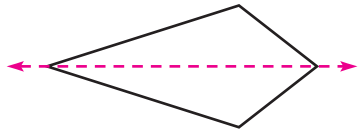
symmetry

5.



no symmetry

6.



symmetry

7. The owner of the resort wants to build a pool that has four sides with equal length and four lines of symmetry. In what shape can the pool be built?

a square

8. Write Math Describe a strategy you could use to make a symmetrical design for a swimming pool.

Possible answer: you could fold a piece of paper in half and then cut a design on the side away from the fold. When you unfold the paper, the design will be symmetrical with the fold as the line of symmetry.

Name _____

Symmetry Riddle

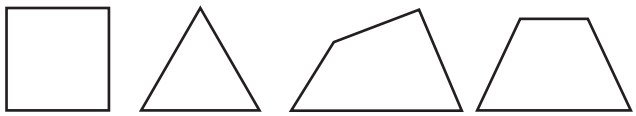
What did the 0 say to the 8?

To answer the riddle, use the decoding box for each word. For each shape, decide how many lines of symmetry it appears to have, and then use the code. For example, a square has 4 lines of symmetry, so write an N on the line below the square.

1. Word 1 Code Box

Write C if the shape has no lines of symmetry.
Write E if the shape has 1 line of symmetry.
Write F if the shape has 2 lines of symmetry.
Write I if the shape has 3 lines of symmetry.
Write N if the shape has 4 lines of symmetry.
Write R if the shape has 6 lines of symmetry.

Word 1

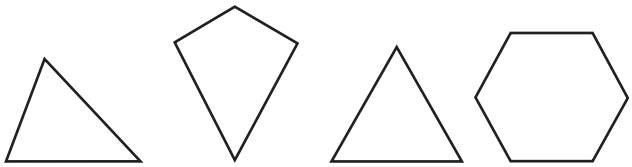


N I C E

2. Word 2 Code Box

Write B if the shape has no lines of symmetry.
Write E if the shape has 1 line of symmetry.
Write G if the shape has 2 lines of symmetry.
Write L if the shape has 3 lines of symmetry.
Write O if the shape has 4 lines of symmetry.
Write T if the shape has 6 lines of symmetry.

Word 2



B E L T

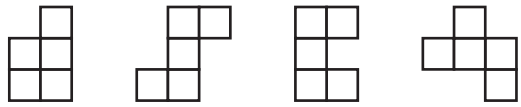
3. Write Math Make up your own symmetry riddle and code boxes. Exchange riddles with your classmates and solve.

Check students' riddles.

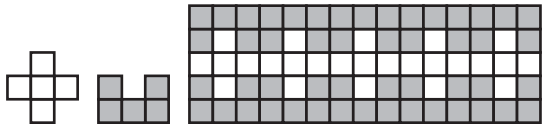
Name _____

Pentomino Patterns

A *pentomino* is a figure made of five same-size squares. Each square must share a side with its neighbor.



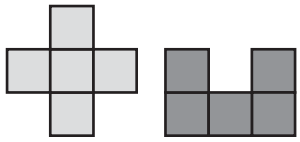
The pattern at the right uses two pentominoes to create a rectangular design.

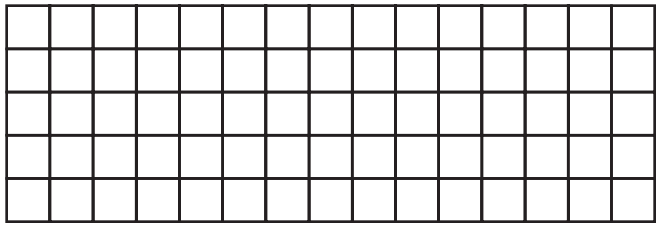


Use the pentominoes to create a rectangular design.

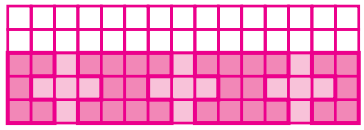
Check students' patterns.

1.

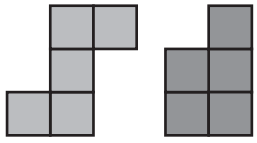


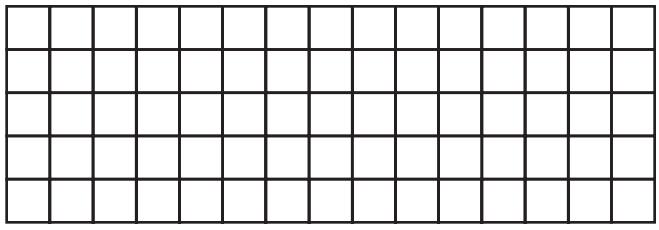


Possible pattern:

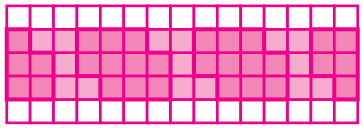


2.

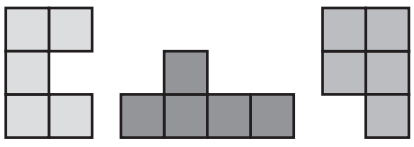


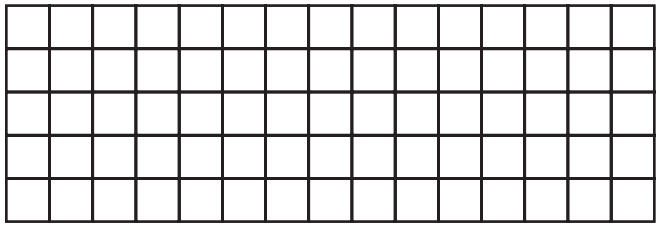


Possible pattern:



3.





Possible pattern: