Tangrams
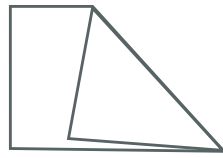
Make a square

Start with any rectangular piece of paper.
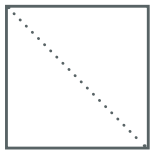
Fold so that shorter side coincides with a longer side.
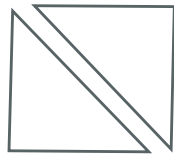
Cut off and discard excess strip of paper. Unfold square.
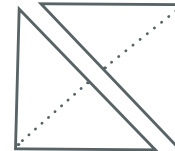
Square

Pieces 1 & 2

Fold square along diagonal.

Cut along fold.

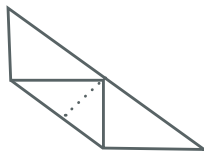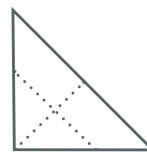Fold each (congruent) triangle in half.

Unfold.

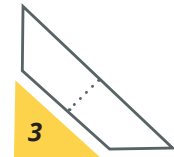Cut one triangle along fold to make pieces 1 and 2.

Piece 3

Fold square corner of remaining large triangle to middle of other side (hypotenuse).

Unfold.

Cut along new fold to make piece 3.

Pieces 4 & 5

Hold remaining trapezoid with long side toward you.

Fold lower left corner (acute angle) to middle of bottom side. Unfold it.

Cut along two folds to make pieces 4 and 5.

Pieces 6 & 7

Hold remaining trapezoid with long side toward you and right angles to the left.

Fold top right corner (obtuse angle) to bottom left corner (right angle) so that top side now coincides with left side.

Unfold.

Cut along fold to make pieces 6 and 7.

Angles: *Acute < Right < Obtuse. The point where two sides meet is either less than, equal to, or greater than 90 degrees.*

Coinciding: *two lines or shapes that lie exactly on top of each other.*

Congruent: *figures, segments, or angles that have the same size and shape.*

Hypotenuse: *the longest side of a right triangle.*

Parallel: *lines that do not intersect.*

Parallelogram: *a four sided figure with two pairs of parallel sides.*

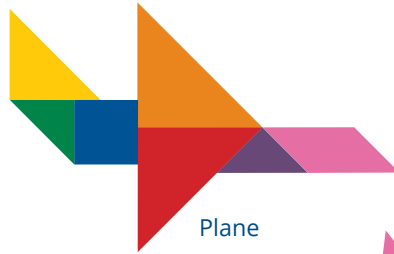**Trapezoid:** *a quadrilateral with exactly one pair of parallel sides.*

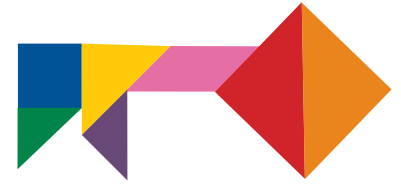# Try making the shapes below!
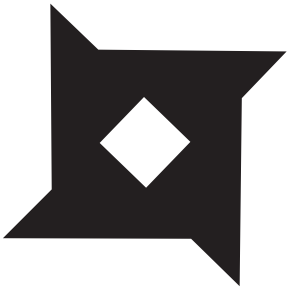
Shoe

Plane

Shirt

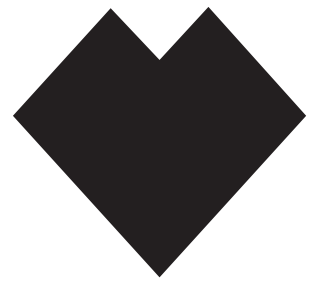Tree

Rocket

House

Candle

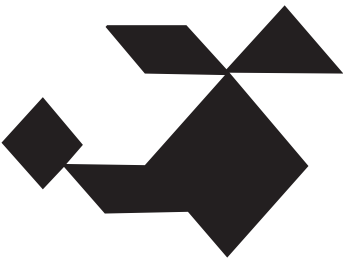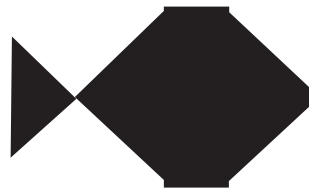Key

Now try these!

Ninja Star

Rooster

Horse

Heart

Helicopter

Swan

Fish

Teapot

Try to come up with your own creations! Tangrams are a great way to combine math and art.

What Are Tangrams?

Tangrams are a Chinese two-dimensional geometric puzzle invented thousands of years ago. They are created by cutting a square into seven shapes called tans, consisting of 2 large right triangles, 1 medium-sized right triangle, 2 small right triangles, 1 small square, and 1 parallelogram. Arranged together, they can form many geometric shapes, like triangles, rectangles, and squares, but they can also form many complex shapes. The goal of a tangram is to use all of the seven pieces to recreate a given shape in silhouette, without overlapping any of the pieces.