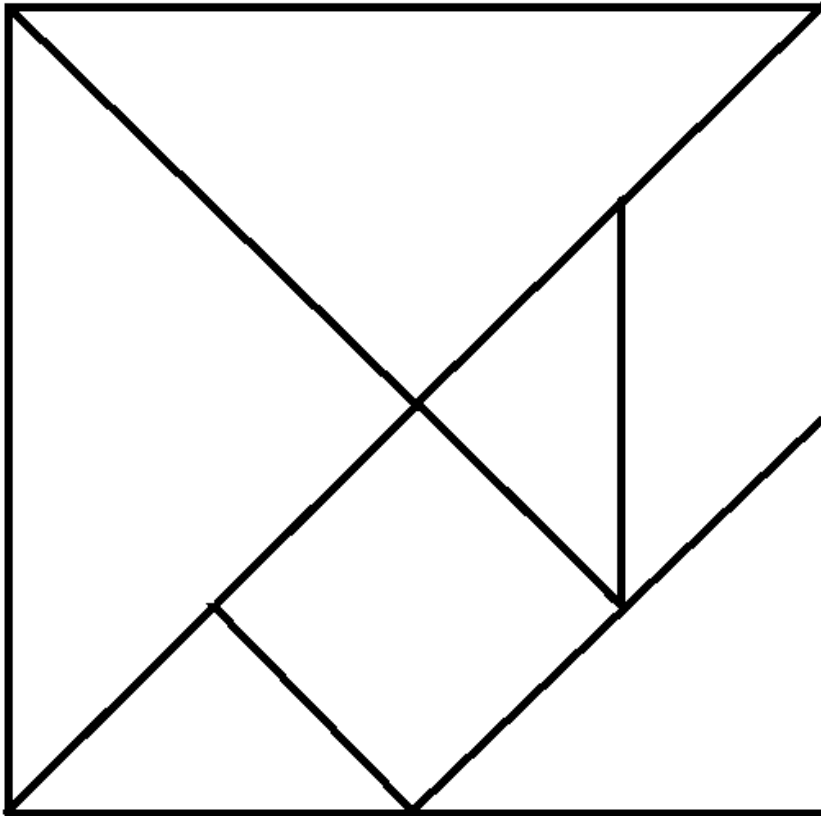


## PROBLEM SOLVING WITH TANGRAMS



*Challenge your students to make up word problems that involve fractions. The following page has some sample problems to get them started. Everyone should begin with problem 1.*

### **1. Equivalent Area:**

**Think about how many small triangles are needed to make up each of the other tangram shapes. (Use your puzzle pieces to help you.)**

**How many small triangles are needed to make the little square? \_\_\_\_\_**

**How many small triangles are needed to make the parallelogram? \_\_\_\_\_**

**How many small triangles are needed to make the medium triangle? \_\_\_\_\_**

**How many medium triangles are needed to make a large triangle? \_\_\_\_\_**

**How many small triangles are needed to make a large triangle? \_\_\_\_\_**

## 2. Proportional Thinking:

This year, Farmer Brown plans to plant his crops to look like a tangram puzzle. He is going to plant seven crops. If his entire field is 160 acres....

How many acres are there in a big triangle? \_\_\_\_\_ acres

How many acres are there in the medium triangle? \_\_\_\_\_ acres

How many acres are there in a small triangle? \_\_\_\_\_ acres

How many acres are in the little square? \_\_\_\_\_ acres

How many acres are in the parallelogram? \_\_\_\_\_ acres

## 3. Problem solving:

Suppose you are making iron-on tangrams for T-shirts. You know that each tangram picture is made with 7 shapes. If you are going to make ten T-shirts...

How many little triangles will you need? \_\_\_\_\_

How many big triangles will you need? \_\_\_\_\_

How many medium triangles will you need? \_\_\_\_\_

How many squares will you need? \_\_\_\_\_

How many parallelograms will you need? \_\_\_\_\_

## 4. Fractions or decimals:

Mr. Adamo is a jeweler. His wife is a teacher and he wants to make her a gold tangram puzzle to put on a chain around her neck. He plans to use one ounce of gold to make the tangram. (It won't be very big. Ask a jeweler to show you what an ounce of gold would look like.)

How much gold will be needed for each of the big triangles? \_\_\_\_\_ oz.

How much gold will be needed for each of the small triangles? \_\_\_\_\_ oz.

How much gold will be needed for the little square? \_\_\_\_\_ oz.

How much gold will be needed for the parallelogram? \_\_\_\_\_ oz.

How much gold will be needed for the medium triangle? \_\_\_\_\_ oz.

## 5. Multiplication with decimals and money:

Go online and find out today's value for gold, in US dollars (USD).

<http://markets.ask.com/ask/quote?Symbol=995:274702>

(On Oct 29, 2013 at 12:00 noon, the value was \$1345.20 per oz. )

Mr. Adamo told Mrs. Adamo not to lose her tangram shapes!

How much are the little triangles worth? \$ \_\_\_\_\_ each

What about the square, parallelogram and medium triangle? \$ \_\_\_\_\_ each

What about the big triangles? \$ \_\_\_\_\_ each