Tangrams Math Kit

Materials used for these activities: *Tangrams* available through ETA Hand2Mind at www.hand2mind.com

Activity #1

Directions:

1. Make a small square using only 2 tangram pieces. (Trace the tangrams to show your work).

2. Make a larger square using only 2 pieces. (Trace the tangrams to show your work).

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3. Make a trapezoid (4-sided shape/polygon with one set of parallel lines) using only 2 pieces. (Trace the tangrams to show your work).

4. Make a pentagon (5-sided shape/polygon) using only 3 pieces. (Trace the tangrams to show your work).

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5. Make a 4inch by 4 inch square using the all 7 pieces. (Trace the tangrams to show your work).

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Activity #2

Part 1

The Rose Family is changing the look of their front yard/lawn. They have divided their square front lawn into 7 different sections (2 small triangles, 1 medium triangle, 2 large triangles, 1 square, and 1 parallelogram). Each section is a part of the whole square lawn. Determine the fractional value of each section. Record your finding in the table. Be sure to explain/justify your solution in the space below the table and/or on your drawing for question 5 in Task #1.

Shape	Fractional Value	Explanation
Small Triangle		
Small Triangle		
Medium Triangle		
Large Triangle		
Large Triangle		
Square		
Parallelogram		

What is the sum of the fractional values?

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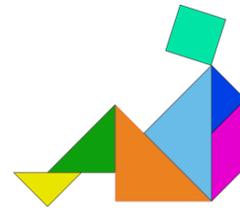
Part 2

Create 2 different designs using all 7 tangram pieces. Each tangram piece must touch at least one vertex (corner) of another tangram. Be sure to only trace the outline of the design. If time permits, have a friend find the fractional value of each piece.

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Extension:

Find the decimal and percent equivalent for each tangram piece.

Tangram	Fraction	Decimal	Percent
Small Triangle			
Small Triangle			
Medium Triangle			
Large Triangle			
Large Triangle			
Square			
Parallelogram			

What is the sum of the fractional values?

What is the sum of the decimal values?

What is the sum of the percentage values?

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Extension (continued):

If the small tangram triangle was worth a $1.00, what would the values of the other tangram pieces be? Explain your reasoning using pictures, numbers, and/or words.

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Activity #3

Reflect and respond to at least two prompts below.

- I learned_____ about _____.
- I created a _____ using all 7 tangram pieces. I chose this design because...
- If I were to help someone figure out the fractional value of_____, I would tell them...
- I found it easier to go from _____(fractions, decimals, percent) to _____ (fractions, decimals, percent), because...

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Activity #4

Technology Connection

Tangram Puzzles

http://www.abcya.com/tangrams.htm

More Tangram Puzzles

http://pbskids.org/sagwa/games/tangrams/index.html

Equivalent Fractions with Monkeys

http://www.fractionmonkeys.co.uk/activity/

Fraction, Decimal, and Percent

http://www.mathplayground.com/Decention/Decention.html

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