

Ms. Hagan's Math Newsletter



January



Half way through 6th grade!

Congratulations! You are half way through 6th grade! It is amazing how quickly the year goes by - and it is amazing how much math each of you has learned! Remember to always ask questions and always push yourself as far as you can - this is the best way to grow and learn!



Logic Puzzle

I have a friend who collects autographed baseballs. All but three of them are from the Red Sox, all but three of them are from the Angels, all but three of them are from the Yankees, and all but three of them are from the White Sox. How many does she own?

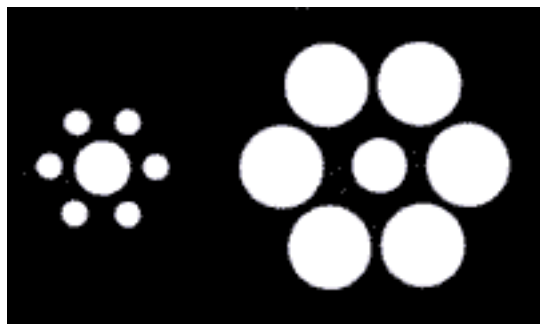
From Terry Stickels KNOWLEDGE CARDS

Math and Visual Arts

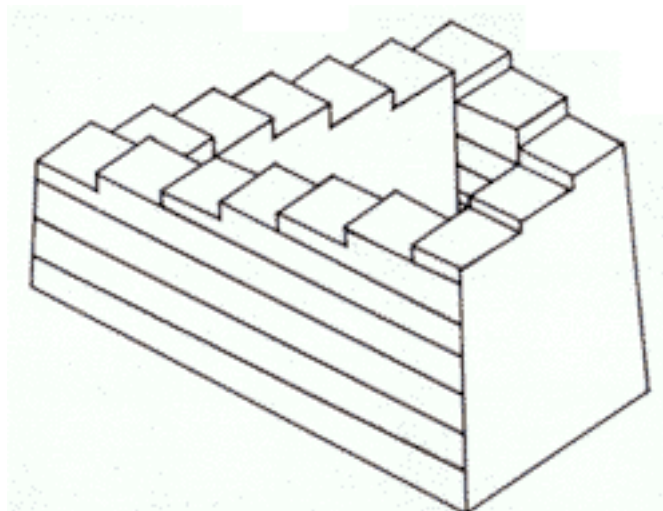


Optical Illusions

from: www.eyetricks.com/illusions.htm



Which center dot is larger? Because it is an optical illusion you probably figured out they are the same. Try measuring them.



Somehow this staircase always seems to travel upward!

With effort, you can do it! I believe in you! I won't give up on you!

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Math Class Supplies

Make sure your name is on it!

Spiral graph paper notebook

Bring this to class each day. You will keep your notes and reflections from class activities. Your regular daily homework will also all be organized in this notebook. (\$2.00)

Pencils Bring a pencil to class each day to use to record your mathematical thoughts. If you make a mistake, pencils are perfect! (\$0.05)

Glue stick or tape Many times during a class period we may be gluing activities or notes into your notebook. You will need your own glue stick. I recommend buying a couple large glue sticks and keeping extras in your locker. (\$0.50)

Correcting pen This may be any color (green, red, purple, etc.) except blue, black, or pencil. We will use this to accent our class notes and make corrections to our homework. (\$0.15)

Calculator A scientific calculator (between \$8.00-\$15.00) will be useful as we do difficult problem solving and used more extensively towards the end of the year.



Math Team News

Our 3rd Meet is next week! It is not too late to join the team - just come by Tuesdays from 2:30-3:15! See you then!

Fun & Games



FUNKY PENCIL CHALLENGE

Solve this problem. Submit your answers, with a short explanation, to Ms. Hagan and if you are correct, you will earn a "Funky Pencil."

If you built a four sided pyramid - not counting the bottom as a side - using Ping-Pong balls, how many balls would be in a pyramid that had seven layers?

From Terry Stickels KNOWLEDGE CARDS



Math Game

Below is a magic square. Each row, column, and diagonal has the same sum. Can you figure out the missing numbers?

22	17		10
12	19		
11			
25	14		13

Who is the liar?

Four friends are shown a number. Here is what they said about the number:

Kelly: It has two digits
Leah: It goes evenly into 150
Sharon: It is not 150
Mindy: It is divisible by 25



One and only one friend is lying? Who is it?

From Blum's Mathemagic

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Ms. Hagan's Levels of Learning

Students who engage themselves with the content during class and take advantage of asking questions of themselves and others better understand and learn the material by unraveling the way numbers work at a deeper level. In class I ask students to find where they are now and try to push themselves to the next level.

Opener - paying attention and listening politely to others

Processor - Thinking and taking in content material

Clarifier - Asking questions to take ownership of material

Wonderer - asking questions of yourself and of the teacher - "I wonder if or "What happens if..."

Scholar- Pushing yourself to go above and beyond what we talk about in class

PARENTS: When kids suggest that school is boring it is often because they are not pushing themselves to find deep meaning in the content. Help your child ask more questions about why something is working mathematically and can something always be true.

Ask your child at which level he or she usually is during class, and try to have them push themselves further.



**Extra
Help**

I am available for extra help when you need it! The times that we both might be free are: during study, during FLEX, or during lunch. I am usually at school around 7:15 a.m. and can meet with you in the morning if you make arrangements ahead of time. I am also here to help students every Friday from 2:30-3:00. Please also ask for help between classes if you think you just need a couple of minutes to make sense of something. It is my job to help you when you are confused. My main objective is to help you learn math!

With effort, you can do it! I believe in you! I won't give up on you!

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Multiplication Tricks



If you are having a hard time memorizing your multiplication facts, there are a few "tricks" that you can use. These tricks are based on the ways that numbers work together. The better you know about how numbers work, the easier it is to figure out your facts.

x
To multiply by 9 there are a few fun tricks!

One group less than 10

If you know your tens times tables then you can use them to figure out your 9's. For example if you have 9 of something, this is like having ten of them minus one of them. So 9×7 is like $(10 \times 7) - 7 = 63 - 7 = 63$.

Use your fingers

Number your fingers 1-10 by spreading out your hands in front of you and numbering them left to right. When multiplying by 9, fold down the finger that goes with the factor (not the 9). Now you have fingers still up that are to the right and left of the folded down finger - these represent the digits to your answer. Let's try it. 9×6 . Fold down your 6th finger (this is your right thumb). To the left of your bent thumb is 5 fingers, and to the right is 4 fingers. The answer of 9×6 is 54!

Add to 9

All of the multiples of 9 up to 90 have a neat relationship. If you add the digits together you will always get 9 (9, 18, 27, 36, 45, 54, 63, 72, 81, 90). When multiplying by 9, the first digit of my answer is always one less than the number I am multiplying it by, then I just figure out what I need to add to get 9! Example; $8 \times 9 = 72$ is the first number then since $7 + 2 = 9$ the answer is 72.



FAMILY MATH



TANGRAMS

7 PIECES

5 RIGHT ISOSCELES TRIANGLES

2 SMALL

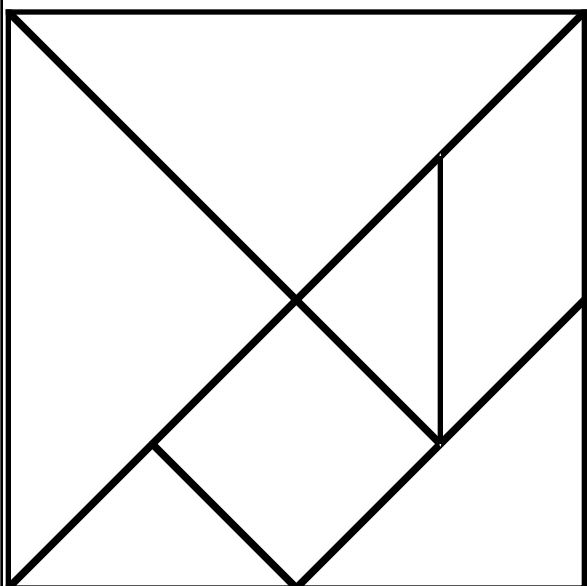
1 MEDIUM SIZE

2 LARGE SIZE

1 SQUARE

1 PARALLELOGRAM

Tangrams are an ancient game first played by the Chinese. My favorite myth about the tangrams is that an emperor asked for a square of Jade, but when it was brought to him the servant dropped it and it broke into the seven pieces of the tangram set. The Emperor was not upset because he had so much fun making other shapes with it.

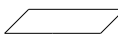


Make your own Tangram set! Use a sturdy piece of paper (a cut up cereal box or other food box is often a good weight). You can cut these out and trace them or download a template to trace from the internet. Ms. Hagan also has plastic sets that you can borrow from school - just ask!

7 piece basic shape challenges.

Make the following:

Rectangle 

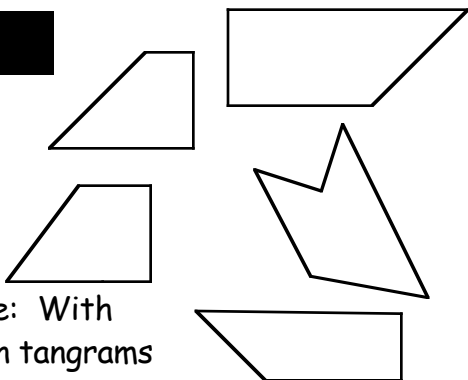
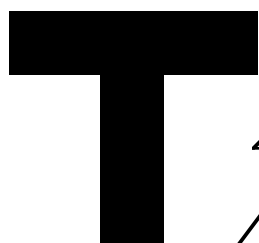
Parallelogram (that is not a rectangle) 

Right Triangle 

Isosceles Trapezoid 

MAKE YOUR OWN DESIGNS!

T is for Thoreau House!



Challenge: With these non tangrams pieces, can you make a capital T?



HEXAGON



BARN



MAN

Try these 7 piece puzzles

There are thousands of shapes that can be made with the tangrams. A few are on this page. you can find many more on the internet!

<http://www.tangrams.ca/>

<http://www.funorama.com/tangram.html>

<http://pbskids.org/cyberchase/games/area/tangram.html>

<http://www.kidscom.com/games/tangram/tangram.html>

To contact me, you can send email to kelly_hagan@wayland.k12.ma.us. Please also check out my website at: http://www.wayland.k12.ma.us/middle_school/hagan/indexa.htm

With effort, you can do it! I believe in you! I won't give up on you!

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