This was an introduction to the program and talk I gave at the beginning of the fall semester. Enjoy!

Introduction: algebra cubed

1. Who I am where I came from:
2. UK, Dr. Millman, NSF, Grant, other fellows, other teachers, Powell and bath county
Goals:
> Conceptually: increase the mathematical conceptual understanding
> Working together: Teachers, students and graduate students.
> Establish a lifelong interest in the math and science of middle
> Increase the performance of the students on the algebra portion (especially) of the KCCT.
My Goals
> Work hard.
> Understand
> Read
> Think Logically
> Like some math (not all)
> Success in your tests, hw and quizzes
> I am going to push you.
> Challenge you
> Have you challenge me
> Get you to ask me a question I cant answer
> Develop good study skills, classroom skills.
> Light bulb moments
> You are going to teach me.

Here is where the lessons begin

For 8th graders: I will do the integer stuff and fractions. I will present a problem to them to work on.

For 7th Graders: I will do the same but talk about $(-1)(-1) = 1$ and will have the building pyramids.

I GAVE THEM THESE QUESTIONS TO HAND IN:

What do you like about math? (for example: I like geometry because I can use shapes)

What do you dislike about math? (For example: I cannot remember my multiplication table.)

Why do you struggle with math? (If you don't struggle, why do you succeed?)

What do you think the Algebra Cubed program can do for you? What do you expect? What do you want to improve for yourself?

What could make math class more exciting and fun?

_____

THIS WAS A SET OF QUESTIONS WE TALKED ABOUT

Yesterday I was reading a recipe. I decided I wanted to make only half of the serving. In the recipe I needed 1/3 cup of sauce. Since I was only making half, I did the following calculation:

Is this right? Why or why not?

Work on this as a group:

1. The weather during Pith Possum's vacation was strange. It rained on 15 different days, but it never rained for a whole day.

Rainy mornings were followed by clear afternoons.
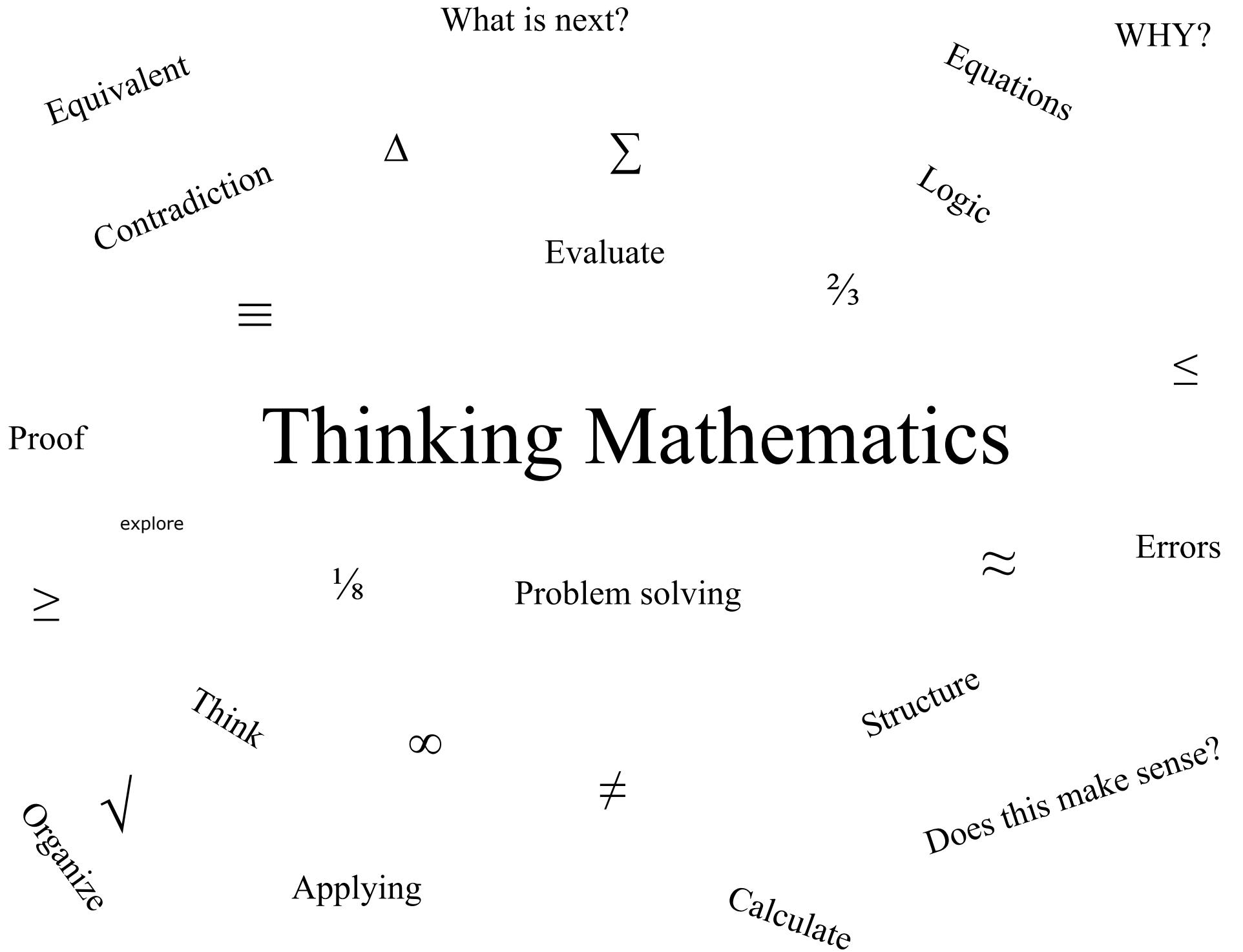Rainy afternoons were proceeded by clear mornings.
There were 12 clear mornings and 13 clear afternoons in all.

How long was the vacation?
_____
2. If you begin with a one digit integer, multiply by 3, add 8, divide by 2 and subtract 6, you will get the integer back.

Find the number.

The next two pages were part of the talk. The page that says THINKING MATHEMATICS I used to see what symbols they know and do not know. I had them raise their hand if they new a symbol and someone else circled it and they had to tell me what symbols they did know and I had a student BOX it. This was a very good discussion and both 8th and 7th graders responded with enthusiasm.

± What is next? WHY?

Equivalent Equations

Δ Σ Logic

Contradiction

Evaluate

$\equiv$ ⅔

$\leq$

Proof

Thinking Mathematics

explore

Errors

$\approx$

$\geq$ ⅛ Problem solving

Think Structure

∞

$\neq$ Does this make sense?

$\sqrt{}$

Organize

Applying Calculate

READ

Make sure you read all of the problem! Re-read. This is one of the most important components in solving ANY problem.

THINK

What is the problem asking? How does this relate to what I have been taught? What mathematics do I see? What mathematics can I use?

UNDERSTAND

What do I understand and what do I not understand? What questions can I ask to others? Can I explain this to someone else? Can I prove this? Can I justify each step?

(Ask? After you have RTU, try on your own first)