

The video was showing the “Mandelbrot Set”

The formula for the Mandelbrot Set is:

$$z_{n+1} = z_n^2 + C$$

All of the numbers that makes this equation work create that picture!!!

Warmup 8/(The grade you're in)

*****If you completed a job application, turn it into the tray now.*****

*****If you did not write on your job application, put it back into the pile next to the tray.*****

*****If you wanted to apply for a job, but you forgot to fill one out, please fill it out now, then turn it in. You have five minutes!!!*****

1. Look at the growth mindset poster above the whiteboard. The phrases in white are harmful ways of thinking (fixed mindset). The corresponding phrases in color are more productive ways of thinking (growth mindset). Read all of the phrases. Choose a few that you feel would be especially helpful for you to remember, and why. You do not have to write them down – you will have the opportunity to discuss with your group and the class.
2. Estimate: How tall is Mr. Lischwe?

A simple question:

- How many of these styrofoam cups would I have to stack up to equal my height? (Any guesses?)
- TALK WITH YOUR GROUP: What information would be helpful for you to know here?
- I am 5 feet, 3 inches tall, which is 160 centimeters.
- **YOUR TASK:** Decide how many cups you think you would need to stack up to equal my height. You will get three cups and a ruler.

GROUP WORK EXPECTATIONS

- 1) Respect one another.**
- 2) Everyone must contribute.**
- 3) Help each other understand!**
- 4) Work together, not separately.**
- 5) Don't distract each other by talking.**
- 6) Get your group-mates back on track if they are distracted.**

Expectations:

- All of your work will go on the task paper.
- One person will be the “writer” for the group.
- One person will control the calculator for the group.
- One person will control the cups and the ruler for the group.
- If you have a fourth person, that person can decide how to be most helpful.
- **EVERY SINGLE PERSON** will contribute ideas to the group!!!
- When your group has your estimate, tell Mr. Lischwe, then get started on the early-finisher activity (the homework), which you will also work on as a group.

How many cups? Estimates (3rd)

[illegible]

How many cups? Estimates (4th)

[illegible]

How many cups? Estimates (6th)

[illegible]

2nd half of class:

- With your table, try to solve the “Lischwe Age Problem.”
- Work together. Listen to each other’s ideas. If two of you want to try one idea and two of you want to try another idea, that is fine, but you should come back together as a table to discuss.
- You are working together, but each person will show the work on their own paper.
- **EXTREMELY IMPORTANT:** On your paper, I want to see your entire problem-solving process. Do not erase anything you do – even the stuff that doesn’t work. Instead of erasing something, mark a single line through it.
- **ALSO EXTREMELY IMPORTANT:** Do NOT say my age out loud. Even if you know it’s wrong. If I hear you saying something like “Oh, I just got it! He’s 21!!!” you will lose points on the assignment.
- Whatever you don’t finish in class is homework.

Homework:

- Finish Lischwe Age Problem