Bell Work   <u>**Grab a new bell work**</u>   1/27/2015

Why do we use exponents?

To simplify repeated multiplication.

Why do we use multiplication?
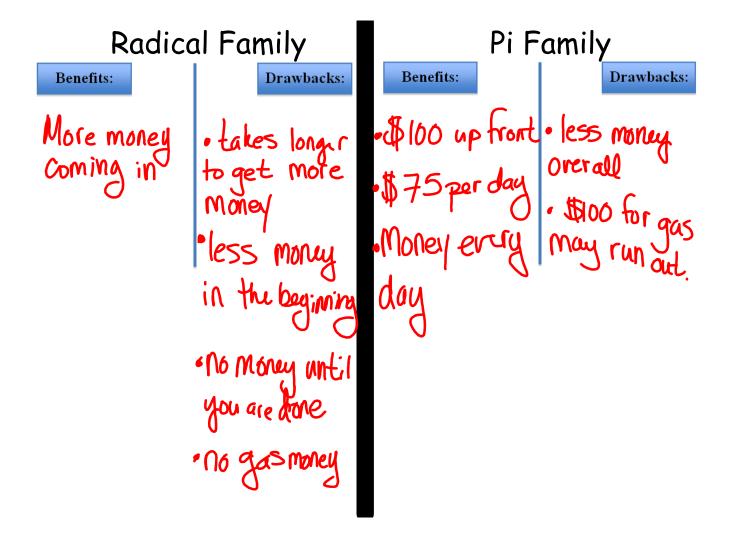
To simplify repeated addition.

Review from yesterday

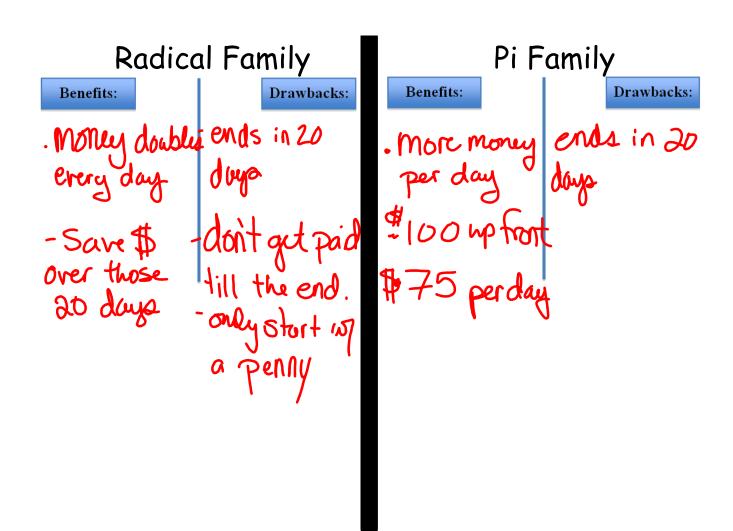Pi Family vs. Radical Family

This summer, Shara is looking to babysit to make some extra money. She plans to work weekdays only. She has the choice between babysitting for two families for a month.
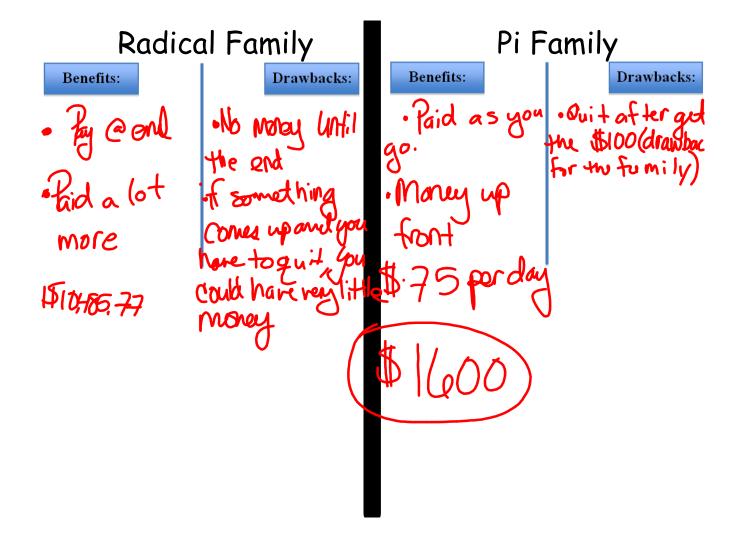
The Pi Family offered Shara a flat $100 stipend for gas money plus $75 a day to babysit

The Radical Family had a different approach. Since they want to ensure Shara would stay with them for the entire month, they offered to only pay her whenever she stopped working a lump sum. She would be paid an initial amount of a penny for choosing their family, and then her pay would double each day she babysat until she decided to stop babysitting for them. (For example, she would earn $0.01 initially, $0.02 for the one day, $0.04 for two days, and so on.) If at any time, she wanted to stop babysitting, they would give her the money she earned up until that point.

Radical Family

Benefits:	Drawbacks:
More money coming in	• takes longer to get more money
	• less money in the beginning
	• no money until you are done
	• no gas money

Pi Family

Benefits:	Drawbacks:
• $100 up front	• less money overall
• $75 per day	• $100 for gas may run out.
• Money every day	

Radical Family   Pi Family

Benefits:		Drawbacks:

Radical Family

Benefits:
- Money doubles every day
- Save $ over those 20 days

Drawbacks:
- ends in 20 days
- don't get paid till the end.
- only start w/ a penny

Pi Family

Benefits:
- More money per day
- $ ≈ 100 up front
- $75 per day

Drawbacks:
- ends in 20 days

Radical Family

Pi Family

Benefits:	Drawbacks:	Benefits:	Drawbacks:
• Pay @ end • Paid a lot more $10,485.77	• No money until the end • If something comes up and you have to quit you could have very little money	• Paid as you go. • Money up front $.75 per day	• Quit after get the $100 (drawback for this family)

$1600

In your groups organize your thoughts from yesterday:

- ## Graphically &/or in a table.

Then **analyze** your **information.**

Some things to think about:
- What happens if she doesn't babysit for all 20 days?
- Could she make the same amount with each family?
  - How long should she work at one over the other?