Description: PUP Math – Pascals Addition **Location: Harding School – Kenilworth, NJ** **Researcher: Professor Carolyn Maher**		**Transcriber(s): Private Universe Project** **Verifier(s): Sigley, Robert, Sran, Kiranjeet** **Date Transcribed: Spring 2000** **Page: 1 of 2**	

Line	Time	Speaker	Transcript
1		*Narrator*	*In March of 1996, mathematician Robert Speiser, of Brigham Young University, interviewed Stephanie. Stephanie linked towers 2 high to each number in the second row of Pascal's triangle.*
2		Stephanie	We figured out all of them, like, from this.
3		Robert Speiser	OK. Tell me a little more about the triangle. Okay, does this have to do with towers?
4		Stephanie	Yeah.
5		Robert Speiser	Show me the--
6		Stephanie	It would be-
7		Robert Speiser	So these are the towers that are 2 high-- 2 blocks high. And then how do you find the 1, the 2, and the 1?
8		Stephanie	It would be-- if you're selecting green-- it would be 1-- Well, if you're selecting blue, it would be 1 with no selections of blue, 2 with 1 selection of blue, and 1 with 1 all selections of blue. It's like the towers.
9		Robert Speiser	It's like the way you'd organized the towers before.
10		Stephanie	Mm-hmm. Yeah.
11		Robert Speiser	How would you organize the next row so that it makes more sense-- so that it makes the most sense for you?
12		Stephanie	Oh, to the chart-... it would be-... Wait.
13		Robert Speiser	How did you know to write those numbers?
14		Stephanie	Because 1 goes to 1 and 1, and then 1 goes here, 1 + 1 is 2, and 1 goes there.
15		Robert Speiser	Oh. So you do it by adding. Ah.
16		Stephanie	Yeah. 1 + 2 is 3, 1 + 2 is 3, and 1 goes there. That's how you do that.
17		Robert Speiser	Oh. So that's how you got this row?
18		Stephanie	Yes.
19		Robert Speiser	Okay.
20		Stephanie	That's how I got it.
21		*Narrator*	*Stephanie then showed how adding either a green block or a blue block can make towers 3 high and lead to a new row of Pascal's triangle.*

22		Robert Speiser	Did you explore why the adding works?
23		Stephanie	Its choices can be green, built onto it-- it can either have a green on top of it or a blue on top of it. And there was no one with green, blue, blue. That's why.
24		Robert Speiser	Good. It looks to me like the others worked the same way.
25		Stephanie	Yeah, you just keep building on.
26		*Narrator*	*This is called the additional rule of Pascal's triangle. The same addition rule applies to polynomial co-efficients.*