Description: Clip 1 of 9: Explaining that (a+b) squared = (a squared + 2ab + b squared), algebraically and geometrically **Parent Tape: Early Algebra Ideas About Binomial Expansion, Stephanie's Interview Four of Seven** **Date: 1996-02-21** **Location: Harding Elementary School** **Researcher: Professor Carolyn Maher**	**Transcriber(s): Aboelnaga, Eman** **Verifier(s): Yedman, Madeline** **Date Transcribed: Fall 2010** **Page: 1 of 2**

0:00	1	Stephanie	Alright, so it was like- I don't know- we did *a* plus *b* squared, and you asked me to explain what *a* squared was-
	2	R1	Mhm.
	3	Stephanie	With like, a square.
	4	R1	So tell me, help me remember what you did.
	5	Stephanie	Oh, so [*reaches for pen, writes*], and then you asked me what that was, and it was [*more writing*] it was *a* plus *b* times *a* plus *b*. And um, ahem, then you asked me what, like, to show *a* squared on a square [*more writing*] and that was like, confusing 'cause I didn't know like how you wanted me to show it-
	6	R1	Mhm.
	7	Stephanie	But, so, then we got into, like, if the square was three parts [*writing*] what this was- and that that was a unit, and that that was like one square unit.
	8	R1	Mhm.
	9	Stephanie	And um, that it would be nine, and because it was like three by three, three squared. And we did a couple of those. And then, um, [*pause*], we- you asked me if it was um, if one side was [*writing*] *a* plus *b* [*writing*]
	10	R1	Oh yes, I remember that one.
	11	Stephanie	Then what it would be.
	12	R1	Yeah.
	13	Stephanie	And um, if the small part's *a* and the big part's *b* [*draws square divided into parts representing* $(a+b)^2$]
	14	R1	Mhm. [*pause, Stephanie writes*] did you figure out what all those pieces were?
	15	Stephanie	Yeah. It was *a* squared, *ab*, ahem, *b* squared, *ab*, and it would be *a* squared plus 2*ab* plus *b* squared, and that's what we figured out then. [*pause, writes*] *a* plus *b* squared equals.
	16	R1	Oh, okay, right. And the original conjecture what *a* plus *b* squared equaled you were testing.
	17	Stephanie	Yes.
	18	R1	And originally, what did you conjecture?
	19	Stephanie	Um-

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	20	R1	What most people-
	21	Stephanie	I think it was *a* squared plus *b* squared.
	22	R1	Yeah, lots of students
	23	Stephanie	And that was wrong.
	24	R1	conjecture that, right, so-
	25	Stephanie	Yeah.