Advancing Student Thinking— Part 1

1	TEACHER:	So what are you guys noticing here?
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3	AIDAN:	We were just coming up with things [INAUDIBLE].. Obviously,
4		this is one of the first things you found, was that from stage one to
5		stage two, it's going up—the area has gone up by two. And then
6		from stage two to three has gone up by three. So there's a constant
7		number going up each time and then--
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9	TEACHER:	Are you always adding by a constant?
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11	EMILY:	No. You're going up-- so, if you look, going from stage one to two,
12		you're going up by two, which is basically the stage number itself.
13		So whatever the stage number is is what you're going up by.
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15	TEACHER:	OK. So, on this stage three, what information did you need to know
16		to figure out stage four?
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18	AIDAN:	How many total. What the total area is.
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20	MICKI:	I mean, for the first couple of stages, what you can do is find the
21		difference between them, and then from that you can calculate two,
22		three, four. So it's going by a constant rate of one. So you continue
23		to see that this goes five, is that a six? That's a six. So you could go
24		at a constant rate of one.
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26	TEACHER:	So there is that pattern in the table. What did you guys do here?
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28	AIDAN:	Right here, I just, I said like, if you're making a full square, just to
29		make it easier. You just take the length and width and multiply it,
30		which is the same thing. So it would be 16 if you multiply four by
31		four. The thing is, it's not like you could straight even line it.
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33	TEACHER:	What if you did draw that straight even line there? What shape
34		would you have?
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36	AIDAN:	Triangle.
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38	TEACHER:	And then what would you have here?
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40	AIDAN:	I mean, well, I would list--
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42	TEACHER:	What shape would these be here?
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44	AIDAN:	More triangles. Those right there.
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46	TEACHER:	How can you relate the figure to the figure number? I'm going to
47		actually let you guys discuss that and I'll come right back.
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49	MICKI:	So if you look at this, I was kind of doing this thing where--