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Transcript for March 8 – 9, 2007

"Student Discourse"
All clips are from students exploring and discussing
Say It with Symbols, Making Sense of Symbols, Investigation 1.3

The class is seen working on Investigation 1.3,
"Interpreting Expressions"

The video was shot in real time and edited from
Approximately 30 minutes, to 10 minutes.

Say It With Symbols, Investigation 1.3
Class: 8th Grade
Date: March 9

Chapter 1: Intro to Problem 1.3
Approximate time 00 – 00:37 (Times from start of video)

Slide:
Title slide

Slide:
Showing Problem 1.3

> T: And then what do you think is on the outdoor? And
> be able to prove it to the rest of us.

Chapter 2: Hailey's Group Exploring 1.3
Approximate time 00:38 – 2:12 (Times from start of video)

Slide:
Explore

Real Time: 15 minutes

There are three different solutions shown here, not all of which are correct.

Line 1, 00:45   Hailey: Which would be this part because that's half the circle. So then the other one's divided by four so its a fourth of a circle and that's why the inside is like...

S: Ohhh Yea I gotcha.

S: You still gotta draw the inside one too

Hailey: This is the inside one... that's the... ohh this is the outside

S: That's the outside the indoor you just draw ...

Line 10, 1:16   Hailey: We do?

Hailey: So this is...

S: That is a freaky looking pool.

Hailey: OK so this would be the... x squared and this is the...

S: What's the area for the pool? The indoor pool's area is...

Hailey: I don't know.

S: umm..

S: Two oh it's two times 4 is 8 so 8 is the indoor
Line 20, 2:02   pools area and whats the are for the outdoor?

Hailey: Ok, this is our pool.

Chapter 3: Audrey's group exploring 1.3
Approximate time 2:13 – 4:18 (Times from start of video)

Line 1, 2:13   Audrey: Alright now, label.

S1: Ok this.. [*writing]*

Audrey: x err 8x squared.

S1: This is?

Audrey: Yea

Audrey: And that is pi ... and... [*takes pen]*

S1: x squared.

S1: Ok and so this right here would be..[writing]

Audrey: x squared.

S1: and this would be pi

Line 10, 2:58   Audrey: Pi times x squared.

Audrey: Because here label that 4x. And then that's 2x
so put in 2x and then...

S2 (offscreen): Wait why is the other half only half?

S1: Because you're timesing it by 4 and then this is a
half square *[pointing at the semi-circle]* so it'd be
a 4th of a square. *[pointing at the quarter circle]*

S2: ok

Audrey: Right and then..

Audrey: So that's x umm that little part is x.

Line 20, 3:33   S1: This?

Audrey: Yea.

S1: How do you write it?

Audrey: Just put x on the line. and this is x uhh 2x

S1: Right here?

Audrey: The whole line, Yea.

Audrey: And then that's 2x

S1: This one?

S2: Yea.

Audrey: Thats 4x.

Line 30, 3:54   Audrey: Because then it'll show 2x times 4x equals

Both: 8x squared.

Audrey: and then 2x and oh 2 put 2x there. 2x Right.

S1: And then you get this by this *[pointing at her drawing]*

Audrey: Right cause there both...Ok

S1: Its half so.

Audrey: OK

Chapter 4: John's Group exploring 1.3
Approximate time 4:19 – 5:51 (Times from start of video)

Line 1, 4:20   John: And then x squared is just one little box. Cause
                      its like this by itself. and then that little part is
                      like a 4th of a circle.

                      Logan: OK I got it.

                      Logan: This is 4x right? And then this lines the x er
                      2x. So you do that and you get 8x squared... right?

                      David: No.

                      Logan: Yea.

                      John: Look David

Line 10, 4:48   Logan: 4x times 2.

                      David: Well this is 4x.

                      Logan: equals 8x squared

                      S1: This is also 4x

                      John: Because they're square blocks.

                      David: Ok.

                      John: Cause if you look at it like one square block is
                      one 8th of this whole section.

                      David: Yea.

                      S (unidentified): Yup

Line 20, 5:07   John: So then if you take that times 8 you'll have x
                      squared times 8 which is 8 x squared.

                      S (unidentified): Ok.

                      Logan: And then to get this you ...

                      David: Why don't you just write it down. It'd be
                      easier like that.

                      Logan: Then you get isn't is x ..x times x.

                      John: Yea

                      Logan: And then you get x squared

                      David: Pi squared

Line 30, 5:27   John: And then you have to divide it by two.

                      John: Then you have to times is by pi.

                      S (unidentified): Oh

                      Logan: And this is pi.. *[writing]*

                      John: And then divide all that by 2.

Logan: Pi ... times x squared... over 2 and then we got the outdoor. *[writing]*

Logan: You just add the x squared.

Chapter 5: The Summary Begins
Approximate time 5:52 – 6:18 (Times from the start of the video)

Slide:
Partial Summary
(The class is close to ending so the summary is not completed this day)
6 different student solutions are posted and students begin to analyze
these.
Real Time: 8 minutes.

Line 1, 6:01   T: Now let's talk as a whole class.

                      S (unidentified): What if you can't totally explain
                      your drawing?

                      T: That's okay.

                      T: And, tell me your first thoughts as you're looking
                      at all the pools up here.   What are you thinking
                      about?

                      S (unidentified):   Strange.

                      T: Tell me more. Olivia.

Chapter 6: Olivia Comments on the 6 Solutions
Approximate time 6:18 – 7:14 (Times from start of video)

Line 1, 6:18   Olivia: Well, I think that

                    T: Shhhh.

                    Olivia: Some of them look the same, like, the last
                    two look the same.

                    T: These two?

                    Olivia: Kind of, yeah its pretty much just fliped up
                    around like -

                    T: Oh, I see.

                    Olivia: The two over there are up and down.

Line 10, 6:48   T: These two?

                    Olivia: Like the one that says Josh, Paul and Kayla.

                    T: These are alike - these are alike, you're saying?

                    Olivia: Yeah.

                    T: So, Olivia, you're saying you see a lot of
                    similarities.

                    Olivia: Yeah.
                    T: And you're confused maybe by what they're trying
                    to say here.

Chapter 7: Hailey Disagrees With 3 Solutions
Approximate time 7:14 – 8:00(Times from start of video)

Line 1, 7:14   Hailey: Ok so, I disagree with those three over
                      there.

                      T: These three?

                      Hailey: Yeah.

                      T: And what do you want to disagree with?

                      Hailey: So, in that equation the X squared - oh,
                      wait, I'm going to do the pi times S, er, the pi S
                      squared divided by two thing.

                      T: Uh huh.
Line 10, 7:35   Hailey: And that would be the outside because that's
                      like half of a circle, like pi, times x, er,;pi X
                      squared would be the whole circle divided by two
                      would be half the circle.   So that would be the
                      indoor part, like -

                      T: Okay.
                      Hailey: The oval, the indoor part.   And then the pi
                      X squared divided by four, that'd only be like a
                      fourth of a circle.   Well, like the ones with the
                      other half of the circle thing.

Chapter 8: Olivia Explains a Solution
Approximate time 8:00 – 8:41 (Times from start of video)

Line 1, 8:07   Olivia: So when you divide it by four, so it'd be
                    half of it.

                    T: Okay.
                    Olivia: and then...

                    Olivia: Eight X minus two this is X squared, this
                    line, right?

                    T: That line is X squared?

                    S(unidentified):   No, it'd be two X.

Line 10, 8:41   Olivia: Yeah. Two X. Two X. And then this is four
                    X. Then four times two is eight - eight X squared.

Chapter 9: Jon has Questions about a Solution
Approximate times 8:42 - end (Times from start of video)

Line 1, 8:42   Jon: Like, it wouldn't - this thing go down like here, and that be two X?

S(unidentified):   Um, no, because it's

T: You're saying you want her X squared bigger.

Jon: Yeah, but

Hailey: If this is two X, two X divided by two would be X, and X times X is X squared. That's why it's only half.

Line 10, 9:06   S: What? Last time you said why….

Hailey: ok so this is two X - so X, er two X divided by two is just X, and X times X is X squared, and that's how we get the X squared.