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Transcript for November 29 – 30, December 3, 2007

“Making Connections:
Moving Straight Ahead, 2.3 & 2.4.”

The class is working on Problem 2.3, “Comparing Costs”
and 2.4, “Connecting Tables, Graphs and Equations"

The video was shot in real time and edited from,
2.5 class days, to approximately 30 minutes.

Making Connections: *Moving Straight Ahead* 2.3 & 2.4
Class: 7th Grade, 20 students when everyone is present.
Date: November 28 – 29, December 3, 2007
Real Time: 2.5 class days.
Edited to 30 minutes.

Note: there are 4 extra video personnel in the classroom.

Chapter 1: Introduction
Time: Approximately 00:00 – 00:10 (times from start of video)

Title Slide

Chapter 2: Launching 2.3A
Time: Approximately 00:10 – 02:33 (times from start of video)

Slide

Launching 2.3A
Real Time: 3 minutes

Students have just discussed and noted “Y-intercept” and “coefficient” in their vocabulary lists.

Line 1, 00:20 T: let's look at an entirely new situation today. So instead of a walking race -

Student: Gilberto-

T: Yup. We're going to kind of leave those guys aside. But it's still Miss Chang's class. We're still looking at Miss Chang's class and the walk-a-thon. But a whole different situation with it, and we're going to see, is there anything linear in this situation, and if so, how can we use our new vocabulary to help our conversation. The situation is they decided to give t-shirts to each person that participates in the walk-a-
Line 10, 00:55 thon. So they go out and they talk to different companies, and they receive bids from two different t-shirt places. One is the Mighty T-Shirt Company, and they charge you $49, then a dollar for every t-shirt. The No-Shrink T-Shirt Company, they just charge you $4.50 per t-shirt. Do either one of those charge in a linear way?

Slide
Problem from student text.

Student, off-camera: Um hmmm.

T: How do you know it's linear?

Tyler: 'Cause it's just so much per t-shirt, 'cause it's like one t-shirt is -

Bryce: 'Cause it starts - adding or subtracting at the beginning doesn't change whether it's linear or not. It just changes where it starts.
Line 20, 01:38 Just like on the mugwumps.

T: So this thing doesn't change whether it's linear or not? That just tells me where it starts. How is it like the mugwumps?

Bryce: Because if we added or subtracted, they didn't change the shape. They just, um, moved to a different spot.

Student, off-camera: Yeah, just changed the position.

Line 30, 01:57 T: so we've got the two different t-shirt companies, and they appear to be linear. So Miss Chang wrote equations, and she said for the Mighty T-Shirt Company, she wrote it as 49 + N and for the No-Shrink Company she wrote it as 4-1/2(N), and she said the N is the number of t-shirts, and the C Mighty means the cost in dollars for Mighty T, and the

C No-Shrink means the cost in dollars for the No-Shrink T. So I want you to think about those companies, how they are charging for their t-shirts, and look at, um, I think we could, let's do just letter A right now because of time. So working with your group, work on all of letter A on page 28. Go ahead.

Chapter 3: Exploring 2.3A
Time: Approximately 2:34 – 06:38 (times from start of video)

Slide

Exploring 2.3A
Real Time: 17 minutes

Line 1, 02:40

Kristen: Um, X equals [unintelligible] Y intercept and then this one is the coefficient.

Bryce: This is, this is the Y intercept, 49, because that's where it starts. It starts at 49 and then goes up.

Kristen: Oh, yeah.

Bryce: I don't think this should be- this should be N, 1

Kristen: well, yea maybe.

Bryce: The number of t-shirts times 1. 'Cause otherwise it's just - course the number of t-shirts times 1 is the same thing.

Line 10, 03:29

Kristen: Yea.

(New group on camera)

Emmett: It's $1 per shirt but then what's the 49 for?

Tyler: Forty-nine is like a nonrefundable $49. If you just say, okay, $49 to the company, 'cause like when, for the Japanese field trip we have to pay a nonrefundable $100 so they know we are gonna be on it.

T: So some sort of a deposit.

Tyler: Yeah.

T: Okay.

Tyler: The deposit and the one dollar's for the t-shirt when you buy a t-shirt.

Line 20, 04:06

T: So if the 49 is some sort of a deposit, and the dollar is the amount per shirt, if I put that in our new vocabulary, which of those is going to talk to me about the Y intercept and which is going to talk to me about coefficient?

Tyler: Well, the Y intercept would be $49 because you're starting at zero dollars and you already have and for -

T: Oh, for zero shirts, they paid $49. Okay, gotcha.

Tyler: And for the, um, the coefficient you'd put the N because you're also adding $1 to the 49.

T: Is that right?

Line 30, 04:48 Emmett: I don't know. I'm confused.

T: So, you said if it's zero shirts you're paying $49. That feels like a start-up to me. That's how much you're starting with. So that would be the Y intercept.

Emmett: Okay, 'cause you're starting on the Y axis at 49.

T: $49, and then what happens.

Emmett: Then plus the number of t-shirts.

T: Okay. So my coefficient is the rate that I multiplied by my variable - what would the coefficient be?

Emmett: Would that be the cost, the cost of each shirt?

Line 40, 05:30 T: Um hmmm. So now if I go to No-Shrink, what's their Y intercept?

Tyler: Their Y intercept is zero because you pay when you're at zero you pay for your dollar, and the Y intercept would be 4.5 because it's 4.5 dollars for each t-shirt.

T: You just said the same thing - Y intercept for both.

Emmett: You said Y intercept is zero and then Y intercept is 4.5.

Tyler: I mean the co - the coefficient.

T: Is that right?

(new group on camera)

Melanie: It's 49.

Kelsey: You'd get 99

Line 50, 06:00 Melanie: Eighty -

Student, off-camera: Forty-nine -

Kelsey: What?

Melanie: I'm adding 49 to that.

Kelsey: It'd cost you 149, right.

Melanie: Forty-nine plus 49 equals 98.

Kelsey: Why'd you do that?

Kelsey: I got it. I just put the equation into the y point thing and, you'll get 14 t-shirts for $63 at both.

Melanie: How'd you figure that out?

Line 60, 06:35 Kelsey: I went to the y point and typed in each equation

Chapter 4: Summarizing 2.3A
Time: Approximately 06:38 – 12:19 (times form start of video)

Slide
Students summarize 2.3A
Real Time: Approximately 8 minutes

Slide

Problem 2.3A from student text.

Line 1, 06:44 T: Um, so I need someone who'd like to talk about A.1. What did you find as the Y intercept and the coefficient and how do you know? Tyler, start us off.

Tyler: Um, I found for the Y efficient is that, where it starts off, like for, um, for Mighty's T-Shirt it was just 49, it was just like a discount, and at um, No-Shrink T-Shirt it's zero, because you're just paying $4.50 for a t-shirt, and the coefficient, um for Mighty's, is the one dollar 'cause you're adding like 49 and then like 50, 51 per t-shirt, and for No-Shrink it would just be the $4.50 'cause he's saying like here's $4.50,
Line 10, 07:40 here's $4.50.

T: What do other people think?

T: Anybody disagree. Nope? I want to jump down to number 4.

T: Oh, it looks like Travis's group over there wants to talk about it. What did you guys decide?

Slide of 2.3A 4 from student text

Becca: Fourteen.

T: How'd you get 14 shirts?

Becca: 'cause we used the calculator, and we typed it - like we used the table and we typed in -

T: Do you want to show it up here?

Line 30, 08:08 Travis: I got it. I know.
Becca: Sure. Yeah.

Travis: We had the table - yup, we had the table and we kept going down until they got, they kept getting closer and closer, and eventually at 14 we're at - they're both at 63

T: So you used your equations to make a table on the calculator -

Travis: Yes.

T: And find when they're the same. Anybody do it another way?

Slide

Ricky’s Group offers a different strategy.

T: So, tell me what you did to guess and check.

Student, off-camera: Um, we just got lucky.

Line 40, 08:57 T: Did you just guess 14?

Ricky: Um, well, we guessed like 13 and - around there, and then we just kind of get closer and closer.

T: How do you check it when you make your guess, I guess, is my question.

Ricky: Well, you gotta make sure that they're the -both the same price, like they, they were both $63.

T: Let's say you had guessed 13. How, what would you do with 13 to see if it was the right answer?

Ricky: Um, let's see. You multiply that by - you do that, and then, do
Line 50, 09:29 that, and then multiply it by, um, $4.50.

T: So you did 13 times $4.50.

Ricky: And then you could do 13 plus 49 - er no, 13 times 1 plus 49.

T: Why would he do that, if he had guessed 13 shirts? Becca, why would he do that?

Becca: Because, like for the $4.50, that's how much each t-shirt costs, and then for the 13, er, the one where you add the 49, because to be able to get the t-shirts you have to pay that $49, and then it - each t-shirt costs a dollar, and so it's just saying that, like, 13 is how many t-shirts you get for that.

Line 60, 10:10 T: So when you guessed 13 and they didn't come up equal then, then you just kept - guessed another one? And how would you know whether to make your guess higher or lower?

Ricky: Um, let's see. Well - (gets calculator) well, the price for the 13 t-shirts was like more expensive for, um, for the, the second, the, the, gosh, which one was that?

T: The Mighty one?

Ricky: That one's, yeah -

T: Okay.
Ricky: The Mighty one.

Line 70, 10:55 T: Okay. And how much was it?

Ricky: Uh, $62.

T: Okay.

Ricky: And then the No-Shrink was $58.50. So then, like the No-Shrink, er, the Mighty, you only have to pay a dollar more, so then you can just pay a dollar more for that, and then just add, add another t-shirt for the No-Shrink, and then you'd get 14 shirts and then they'd be the same price.

T: So you kind of analyzed what your answers were telling you to decide whether you needed to go up or down from that.

Line 80, 11:30 Ricky: Yup.

T: Did anybody use a graph? How could the graphs have helped me to know when they were going to cost the same?

Melanie: When they intersect?

T: So where do you think they'll intersect now that that we've kind of looked at this twice?

Melanie: At 63.

T: At $63? Now you want to press it and see?

Melanie: That's cool.

T: So will I know it's at $63 and 14 shirts? How can I use that graph
Line 90, 11:57 to see if that's true? Aaron?

Aaron: Don't you just basically go to where they, um, meet?

T: So if I get - if I hit trace - and does it look like they're hitting at about 14 - 14 shirts and $63?

Aaron: Yeah.

T: So I could have used a graph. It didn't look like that was the strategy of choice that - of many of you, but I could have used a graph.

Chapter 5: Launching 2.4
Time: Approximately 12:20 – 14:14 (times from start of video)

Slide
Launching 2.4
Real Time Approximately 3 minutes

Line 1, 12:25 T: Let's look at problem 2.4 today, and let's see if we can push this idea of using tables, graphs, and equations to find solutions to situations. On page 29, we're going to begin by going back to Alana.

Slide
Problem 2.4 from student text

T: So now what I want - what we're going to do in problem 2.4 is, we're going to go back and look at some, other people's pledge plans, but look at some more specific instances with the pledge plans, specific amount of distances they're going to walk or a specific amount of money that they want to earn. And we're going to look at the idea of tables, graphs, and equations to help us find solutions. So an example of what

Line 10, 13:09 I'm talking about is this point (14, 12) is on the graph for Alana's pledge plan. What does (14, 12) mean?

Melanie: Ooo, pick me.

T: Okay, me, Melanie.

Melanie: For 14 kilometers she gets $12.

T: Is that what that (14, 12) is talking about? If that's what it's talking about, what question might somebody have had that made them look on the graph and find that point?

Student, off-camera: How many kilometers they have to walk to earn $12?

Line 20, 13:40 T: Could they have had that question and used that point to answer it?

Ricky: Um hmmm.

T: What else could they have wanted to answer?

Ricky: Um, if you walk at 14 kilometers how much money do you earn.

T: Would that be a question they might have had? Sure. That's the kind of thing we're going to look at in problem 2.4. So turn to page 30, and on page 30, you'll see three different pledge plans right underneath where it says problem 2.4. Plan 1, Plan 2, and Plan 3. Those are the three pledge plans you're going to analyze with your group.

Slide
Page 30 in student text

Chapter 6: Exploring 2.4
Time: Approximately 14:15 – 16:03 (times from start of video)

Slide
Exploring 2.4
Real Time: 22 minutes this day and 20 minutes the next day.

Lily is puzzled by $y = -x + 6$

Line 1, 14:24

Lilly: I'm not sure. It says X is the number of kilometers left after taking away X.

T: So we do have a negative X, which is weird. I agree.

Lilly: Maybe they're not walking any kilometers, just paying $6 -

Student: Yeah.
Lilly: Like, uh, just, um, donating it.

T: What if they did walk a kilometer?

Lilly: Um -
T: What would happen? If they walked zero, would they have $6?

Line 10, 15:06

Kelsey: Wouldn't they get $6 no matter what? If that's what that means, 'cause if they get $6 donated no matter what just like, uh, the $10 of Alana or something.

T: So you think that Plan 2 may mean they just get $6 whether they walk or not? What does Plan 3 mean?

Lilly: Um, that, I think that one means that they're just paying $2 'cause Y, like, ' cause it says Y equals 2 that means that - it's just like no matter what it'll be 2.

T: So does Plan 3 mean no matter what you get $2?

Line 20, 15:53

Lilly: I'm like, I'm sure on that one but I'm not sure on that one. It's like I have no idea what that means.

T: Maybe you guys can look at Y intercept and coefficient, or a table or a graph for Plan 2, to help you figure out what's going on in that one, and I'll come back in a minute.

Chapter 7: Becca and Jayna
Time: Approximately 16:03 – 17:23 (times from start of video)

Slide
Becca and Jayna discuss y = 5x - 3

Line 1, 16:09

T: What's the X variable in Plan 1 talking about?

Becca: That we have to multiply it?
T: That's where I get lost.

T: And what is it being multiplied by?

Becca: Five.

T: So what is the X standing for?

Becca: Is it standing for the distance?

Becca: Wait. It's saying 5 times the- 5 times the amount of kilometers they walked, and then from that total you have to take away the $3.

Line 10, 16:36

T: Well, what if they walked one kilometer? How much money would they have?

Becca: Five.

T: So they'd get $5? What about that minus 3?

Becca: They'd have to take that $3 away and then they'd just be left with 2.

T: So total if they walked one kilometer is really only $2?
Becca: Yeah.

T: So what if they walked two kilometers?

Becca: It'd be 10.

Line 20, 16:55

T: And then do you have to deal with that minus?
Jayna: Minus 6 -
Becca: Yeah.

T: Is it minus 6 or is it minus 3?

T: That's my question. Do you take away 3 every kilometer -

Becca: Well, if you're timesing -

T: Or do you just away 3?

Becca: It you're timesing the money by the amount of kilometers you get, then -

Jayna: Well, if you, if you have -

Line 30, 17:11 Becca: Well, 'cause - no, you'd only have to take away the 3 from what they got from that sponsor, because if you look it says just 5X, and then you have to take that away from the total, you take the 3 away from the total.

Chapter 8: Ricky, Aaron and Logan
Time: Approximately 17:23 – 18:11 (times from start of video)

Slide
Ricky, Aaron and Logan discuss $y = -x + 6$

Line 1, 17:28 T: So what did you guys think about the 3 plans?

Logan: Um, I had-

Ricky: We didn't really get the negative ones.

T: Okay. What'd you say about them?
Ricky: Especially the Plan 2.

Ricky: Plan 1, we thought maybe there was like a cost for like, if they were buying t-shirts or something.

T: Okay.

Line 10, 17:48 Ricky: The Plan 2 doesn't make sense, 'cause when you walk you lose money.

T: What tells you when you walk you're gonna lose money in Plan 2?

Ricky: The X?
Logan: Because -
Aaron: Like this?

T: So what's the 6 telling you?

Ricky: That you get 6 so if you didn't walk anything you'd get 6.

T: And what happens if you walk a kilometer?

Ricky: You'd lose money.

Aaron: Is that right? (asking about his calculator display)

Line 20, 18:06 T: So if you were this person, what should you do?

Ricky: Not walk.

T: Not walk at all.

T: Yea, that is a weird plan.

Chapter 9: Bryce and Kristen
Time: Approximately 18:12 – 18:59 (times from start of video)

Slide
Bryce and Kristen set up a graph of the 3 plans.

Line 1, 18:17 Kristen: What's the max?

Bryce: No that's the X?

Kristen: You have to do negative.

Bryce: Okay. So we're going to check it for-

Kristen: You only have to go to 30.

Bryce: Unh unh, 'cause we gotta go to-

Kristen: And then the max - 33? Right?

Bryce: What?

Line 10, 18:47 Kristen: What's the max? Thirty-three - Y minimum negative 33 - one X, 33 -

Bryce: How do you put negative?

Kristen: You do this.

Chapter 10, Ricky, Aaron and Logan
Time: Approximately 19:00 – 20:24 (times from start of video)

Slide
Ricky, Aaron and Logan set up a graph with the 3 plans.

Line 1, 19:04 Ricky: But we need, like, we have to have 50 of them though, 'cause there's got to be 22, and then it's gotta be 28, negative 28 and a positive 22. So maybe we should do like -

Ricky: We could do threes.

T: Would threes fit on there okay?

Ricky: Um, yeah. It's just a weird scale.

T: It is a strange scale.

Ricky: But like fives are too, like, big.

T: Fives are too much to see it.

Line 10, 19:38 Ricky: Alright, so now, all's we do for this, for Plan 1 I'm going to start -

Aaron: It ends right there.

Ricky: So Plan 1 -

Logan: Plan 1 I'm doing it.

Ricky: The Y is negative 28 and then X is negative - we gotta label the X. We can probably just do this - do this ones and twos.

Aaron: There's the graph right there. That's the graph.

Logan: What kind of negative do you have?

Ricky: It doesn't matter. As long as we get negative 5. Alright, so let's - we gotta do - we gotta do one for Plan 1, and you gotta plot the
Line 20, 20:27 points.

T: How did threes work?

Ricky: Um, they worked good, we just gotta plot the points.

T: Oh, okay. Well you, you pretty much plotted the points.
(Slide of Aaron’s graph)Aaron: Do we have to plot the points?

Ricky: So we can just do that?

T: Well, he's got them pretty darn close to the line.

Chapter 11: Continuing to Explore 2.4
Time: Approximately 20:44 – 22:10 (times from start of video)

Slide:
The next day the class continues to explore 2.4.
Bryce and Kristen

Line 1, 20:48 T: in this equation, where would the 2 and the 4 be?

Bryce: The, 2, 4-

Kristen: The 2 would be X.

Bryce: Yeah. Four, two -

T: So if I had negative 2 plus 6 - does that equal 4?

Bryce and Kristen: Yeah.

T: It does? So that's what it's asking - how does the 2 relate to the equation and how does the ((2,4)) relate to the table?

Bryce: Could we say like Y would equal 2 and then X would equal -

Line 10, 21:29 Kristen: Two, four - Y would equal 4?

T: Um hmmm.

Bryce: Yeah. Do we write that down?

T: Yup.
Bryce: Okay.

(Student (in another group off camera): C equals -

Student (in another group off camera): what does that mean?)

Kristen: The point ((2,4)) is the Y on the graph.

Kristen: Yeah. Yea. So, you, um, eventually- 'cause - your 2 is the X and your 4 is the Y, so you get for 2 kilometers you walk you get $4.

Chapter 12: Summary of 2.4B
Time: Approximately 22:10- 25:40 (times from start of video)

Slide
Summary of 2.4 B, C, D.
Real Time: 22 minutes

Line 1, 22:10

T: in letter A, as I walked around from group to group to group, it seemed to be a struggle getting back into using the negative numbers, making a graph that had four quadrants, but we all seemed to work through that. It just took some time to talk it over with our groups and get through that. So what I would like to do is look at letter B to start our summary.

T: Plan 1 was 5X minus 3.

T: was this increasing, decreasing, or staying the same, how could you do that using all three representations?

Line 10, 22:44

Ricky: Um, for Plan 1 it increased, Plan 2 it stayed the same, and like in Plan 3, it decreases.

T: Tell me how you know this one is increasing.

Ricky: Um, because the X is positive for the equation [mumbling]

T: So from an equation, you're saying this coefficient tells me it's increasing?

Ricky: Yeah, 'cause it's positive.

T: What is it about the graph that tells me it's increasing?

Ricky: Um, it just goes up from left to right.

T: So as the X's are getting bigger, are the Y's also increasing?

Line 20, 23:15

Ricky: Yes.

T: And that happens on the first Plan's graph?

Ricky: Yup.

T: Does the table also tell me it's increasing?

Ricky: Yup.

T: How does the table tell me it's increasing? Travis.

Travis: It tells you that it's increasing because as, um, if you do it on a calculator, as this gets higher, these numbers also get higher.

T: How about in Plan 2. The equation was Y equals negative X plus 6. Is that one increasing, decreasing, or staying the same? Becca.

Line 30, 23:48

Becca: Um, Plan 2 is decreasing.

T: How come? How do you know?

Becca: Um, because if you use the graph and, like if you started at zero, and that would, the starting number on the Y axis would be 6, and then from there it just keeps going down and down and down into the negative.

T: So this is Plan 2's graph?

Becca: Yeah.

T: So you're saying that the starting point's at 6 -

Becca: Er, well, yeah, I put it on my graph, it is.

Line 40, 24:16

T: 'Cause you started at (0,6).
Becca: Yeah.

T: Okay. And then what?

Becca: Then it just starts going down and down and down, 'cause you're subtracting money as you go.

T: just looking at that equation. Would I have known ahead of time that this was going to be decreasing data?

Travis: Yeah.

T: What tells me in that equation it's going to decrease?

Travis: Oh, 'cause of the negative.

Line 50, 24:38

T: And what does that negative tell me is happening?

Travis: It tells you that when, um, you're going to keep going down but then you'd still have to add 6, you're going to keep going down. You're not going to stay in positives. You're going up instead of down.

T: What about the last one, Y equals 2. Increasing, decreasing, or staying the same, Melanie.

Melanie: Staying the same.

T: How do you know it's going to stay the same?

Melanie: It's just going straight across.

Line 60, 25:13 T: So your graph - because you see the graph is just going straight across - tells you it's staying the same?

Melanie: Um hmmm.

T: What is it about the table that's telling you it's staying the same?

Melanie: 2, 2, 2, 2, 2, 2.

T: What is it about the equation that tells you it's staying the same?

Student, off-camera: It's just 2.

T: It's just 2.

Melanie: Always going to be just 2.

Student: There’s no x.

Line 70, 25:35 T: There's no X, so it's not multiplied an X, or the kilometers. So I can - whether I'm using the table, the graph, or the equation, I should be able to know ahead of time how somebody's pledge plan is working.

Chapter 13: Checking for Understanding
Time: Approximately 25:41 – 26:56 (times from start of video)

Slide
Checking for Understanding

Line 1, 25:47 T: what would you say that one was, an increasing, decreasing, or staying the same plan?

Student, off-camera: Increasing.

T: And what tells you it's increasing?

Student, off-camera: 'Cause the 7X

[multiple class responses]

Bryce, off-camera: What's that number called?

T: This number?

Bryce, off-camera: Yeah,

T: Or this number?

Line 10, 26:03 Bryce, off-camera: No, the other one, by the X.

T: So the 7? What is that called?

Student, off-camera: The coefficient.

T: So the coefficient tells me that it's increasing?

Students, off-camera: Yeah.

T: So this is an increasing data set. What if I had a graph, and I saw this. Is this increasing, decreasing, or staying the same?

Tyler, off-camera: It depends.

T: It depends on what?

Line 20, 26:27 Tyler, off-camera: It depends on like where, where you're starting from.

T: How do I know where I'm starting from on this, even though I don't have numbers on it?

Becca: Is it where, like, it would cross the Y axis?

T: So I'm looking for my Y intercept and I'm hitting the Y axis there, and then what does, if I look at this graph, am I increasing, decreasing, or staying the same?

Student, off-camera: Decreasing.

T: Decreasing? So even though I don't have numbers on it, I can see as my X's are getting bigger, my Y values are decreasing.

Chapter 14: Summary of 2.4C
Time: Approximately 26:55 – 28:49 (times from start of video)

Slide
Problem 2.4C in student text

Line 1, 27:00 T: Tell me what your group was talking about with that point (2,4). First of all, which graph did you decide you could use for the point (2,4)?

Student, off-camera: 2.

T: Okay. So we're looking at Plan 2.

Travis: and we found out that we, we, I got confused at first 'cause- then we found out that 2, the- by negative X doesn't mean you have to multiply anything. It means, it just means you're starting there, and then you have to add, um, add 6 to it. So, we started out negative 2 and
Line 10, 27:27 you add 6, that's going to get you 4. And then we also found, and, the 2 on this means the kilometers walking and 4 means the money, on this problem.

T: So you - first you're talking about the equation -

Travis: Yes.

T: And the 2, you're saying, was the kilometers, so you put that here - if I'm following you right. And then you said you took negative 2 plus 6 -

Travis: That equals 4.

T: And that equaled 4.

Line 20, 27:57 Travis: Yes.

T: And so that's how you saw it related, the 2 and the 4 relating to the equation.

T: How do the 2 and the 4 relate to the table of data? Kristen.

Kristen: Um, at, when you walk 2 kilometers, you earn $4.

T: Is that true? If I walk 2 kilometers on that Plan, do I earn $4?

Kristen: Um hmmm.

T: I do.

Tyler, off-camera: And when you walk 3 kilometers you'd get 3.

T: So how would, what's the (3,3) have to do with the graph?

Line 30, 28:36 Tyler: It's, like, um, that it's decreasing by 1, and if like you went down to 4 you would only get, like 2

T: So looking at this table, you're saying every time that I walk another kilometer, they're decreasing one.

Chapter 15: Summary of 2.4D
Time: Approximately 28:50 – 30:58 (times from start of video)

Slide
Problem 2.4D from student text.

Line 1, 28:51

T: Then letter D. I know you were having a lot of conversations about what in the heck was that about. Which equation would you trace to find the value of X that makes 8 equals 5X minus 3 a true statement. Becca, what did you do with that one?

Becca: Um, okay. We took our graphs, and we looked up, we went to 8 on the Y axis, and, uh, then we went and like started going over to the right and where we found that it crossed first was the Plan 1, and it was like 2.2, and then so we figured out that, um, yeah -

Line 10,28:38

T: So you're saying you went to 8 on the Y axis, and why did you go to Plan 1?

Becca: Well, we just started going over it until we hit the first, and then we found the first, that was like the first Plan that we had like actually picked, I guess you could say. Yeah.

T: So you went to Plan 1 and said that it looked like it estimated to be about 2.2 kilometers?

Becca: Yeah.

T: Is Plan 1 the graph that they wanted?

Line 20, 30:13

Travis: 'Cause Plan, Plan 3 won't do anything because it's always at 2. Um, and then Plan 2, Plan 2 just keeps going down. So you had, you knew it had to be Plan 1 but to check it we just, to find out what it was, that's the hard part.

Slide
2.4D from student text.

T: So what would you say is in D - what are the coordinates for the point on the line to give them that solution? Using what Becca was telling us? Ricky.

Ricky: 2.2?

T: So is 2.2, is that the coordinate?

Ricky: Yes.

T: So 2.2. That's a coordinate?

Ricky: And then 8.

Line 30, 30:40 T: Oh, then you need 8?

Slide
Travis has a different strategy

Travis: 'cause I knew that it had to equal 8 and 11 minus 3 equals 8, so I did 11 divided by 5 which got me 2.2, and then that's what I - that's how I found out what it was.

Chapter 16: Teacher Reflections
Time: Approximately 30:58 – 35:00 (times from start of video)

No transcript available