10th Math Poly Area
Classroom

Teacher: [crosstalk 00:00:01] very similar to your homework.

Students: [inaudible 00:00:05] right?

Teacher: Yep. [crosstalk 00:00:09] 21.2.

[00:02:00]
Students: [crosstalk 00:00:28] What? My fault!

Teacher: [crosstalk 00:02:32] You did it?

Students: Yeah. [crosstalk 00:03:02]

[00:04:00]
Teacher: [00:06:00] What about 21.4? [crosstalk 00:03:11] For you and for you. Clean it up. I don't want to see any [crosstalk 00:04:47] I told you guys not to do this stuff. I talked to you so many times. I've talked to you about your brother doing this. Why are you doing this now? Give me those two things. My goodness. [crosstalk 00:06:12] not to break pencils. [crosstalk 00:06:30] Okay, that's all for this. This should have been easy for you because we just did this yesterday and this is what your homework was on. I see that a lot of you didn't do your homework so it might be a little bit more difficult. Find the sum of the interior angles of an 18-gon. What formula are you going to use to do this?

Students: That should be n minus ...

[00:08:00]
Teacher: Parentheses.

Students: N minus 2 parentheses.

Students: Gosh darn it.

Teacher: Yes. N minus 2.

Students: What's an apostrophe again?

Teacher: Apostrophe is the thing you do before s.

Students: That's why you're the teacher.

Teacher: Okay, great. N minus 2 times 180. What does n stand for? [crosstalk 00:08:19] number of sides or? Number of angles. What does n stand for in this situation?

Students: 18.

Teacher: 18. 18 minus 2, times 180. What's 18 minus 2 simplified to? 16. Times 180 and that equals?

Students: [inaudible 00:08:41]

Teacher: [inaudible 00:08:43] Am I done with this problem?

Students: Yes.

Teacher: Do I have to do another step?

Students: No.

Teacher: Are you sure?

Students: Yes.

Teacher: Okay. Find the measure of one interior angle of a 14-gon. Again, what formula are you using?

Students: N minus 2 times ...

Teacher: Parentheses n minus 2, or quantity n minus 2 times 180 and so what does n stand for in this situation?

Students: 14.

Teacher: 14, number of sides.

Students: Or angles.

Teacher: Or angles. Go ahead, 14 minus 2.

Students: 12.

Teacher: 12. Times 180. What is that?

Students: 2160.

Teacher: 2160, very good. The calculation. Am I done? Who says yes? You said yes. Yes we're done? We're done with the problem moving on? Who said no? We're not done with the problem?

Students: Yes we're done.

Teacher: Where are we? Yes, done with the problem?

Students: Oh no. We forget how much [inaudible 00:09:48].

Teacher: Forget about the [crosstalk 00:09:49] degree side. Are we done now Student? Who said no? Why are we not done with this?

[00:10:00]
Students: Multiply the ... sum of the all of the interior angles. [inaudible 00:10:03]

Teacher: Okay, [inaudible 00:10:05] one. Are they all the same? [inaudible 00:10:09] would be the clue that tells me they're all the same? What would be the word for this in the question?

Students: A regular.

Teacher: Regular would mean they're all the same. Okay, we're going to divide this by 14. How come that's 12?

Students: We multiplied 2.

Teacher: The number of sides. Okay. What is it it?

Students: 152.

Teacher: 152? 154?

Students: 155.7.

Teacher: Round up to the one [inaudible 00:10:43]

Students: 154.

Teacher: 154 on your calculator? Okay, 154.2?

Students: Yeah.

Teacher: Okay. Are we done now? Yes we're done. We're moving on. Okay, next problem, find the sum of the exterior angles of a 22-gon. What's the sum of the exterior angles of a 22-gon? [crosstalk 00:11:11] You're going to take 360. How many of you agree with 360? Some of you. This side of the room, not agreeing, what should it be?

Students: 360.

Teacher: [inaudible 00:11:27] You weren't here. You were here. What else could it be besides 360?

Students: 20.

Teacher: [inaudible 00:11:40] or is it 360?

Students: 360.

Teacher: It's 360. We did that investigation. We should have done that investigation, right. 360 are we done?

Students: No.

Teacher: Do I have to divide by 22 in this situation?

Students: No.

[00:12:00]
Teacher: [inaudible 00:11:54] Okay, let's go on to your homework. 21.2. 21.2. [inaudible 00:12:27] homework. [crosstalk 00:12:33]

Students: Can we skip 21.3?

Teacher: No we did 21.3. you remember? [crosstalk 00:12:50] That's why you're having a hard time.

Students: No. [crosstalk 00:12:57]

Teacher: The sum of the interior angles of any n sided polygon, have you found using one formula? [crosstalk 00:13:13] quantity n minus 2 times 180. Student, determine the sum of the interior angles of a 15-gon. [crosstalk 00:13:20]

Students: 2700.

Teacher: 2700, is that what you guys got?

Students: No.

Teacher: You got that.

Students: 234.

Teacher: [00:14:00] 234? Okay, how are we going to figure this out? 15-gon? N minus 2 times 180. If n is 15, what does this parenthesis become? 13. Times 180, and what is 13 times 180?

Students: 234.

Teacher: Thank you. 2,340, thank you Hunter. That's the sum. Is the interior angles of polygon have a sum of 3,960, how many sides does the polygon have?

Students: 24.

Teacher: If I set up my equation and I don't know what n is but I set it equal to 3960 I can simplify it by dividing by 180 adding to it I got n equals 24. Okay. Again you should be reviewing your homework. A regular polygon, this relates back to what we talked about in math review. Regular polygon is equilateral and equiangular, therefore, the interior angles of a regular polygon, you can calculate it by dividing by n. That's exactly what we did, right? Exactly what we did on the 2nd problem of math review. Okay. [inaudible 00:15:10] the following table. That is a review from the class website. I'm going to skip over that right now. You should have that done if you completed your work. Number 6, how many of you do number 6? Very good. Number 6, because it's a lot of solving and equations, that's what you're going to be looking forward to in Algebra 2 next year. It's a bunch of [inaudible 00:15:38] if you're very comfortable in solving for n you'll do good in Algebra 2 next year. If you're not comfortable you better get comfortable soon because we have a quarter left.

[00:16:00] We're going to use that equation of n minus two times 180 over n equals 168.75. We want to use that first equation of the sum, Jacob, first equation of the sum and we divide it by the number of sides to get the single angle. I'm going to multiply by n on both sides and I get n minus 2 times 180 equals 168.75n. If you're following along with me, I appreciate the writing. I'm going to use the distributive property to go to both the 180 times n and the negative 2 so I get 360 minus, not 360 I'm sorry, I get 180n minus 360 equals 168.75n. You see where I'm eventually going to get n by itself. I'm going to find how many sides this thing has. I will add 360 to both sides to get positive numbers. I get 180n equals the [inaudible 00:17:13] do I add 168.75n to 360? Can I add those two together?

Students: No.

Teacher: I hear more nos than yeses. Why not? They're not common terms. I have 168.75n plus 360 and I can take away 168.75 n on both sides.

Students: Wait so this is going to be in Algebra 2?

Teacher: [00:18:00] This is Algebra 2. This is a first 2 days of Algebra 2, starting to manipulate [crosstalk 00:17:58] yeah. Huh?

Students: As long as you know n you can solve that.

Teacher: Now that you can do, you can feel comfortable solving for n in these multistep equations. Yes. [crosstalk 00:18:10] There's more equations. There's more writing. Okay, and I'm going to divide by 11.25n.

Students: Did you say more writing?

Teacher: More writing. Geometry is more proofs, yes. There's a lot more multi-step problems. It's not just solving 3 things and then you're done. The whole page of solving. [crosstalk 00:18:51] n equals 32 in this situation. If you want to check it you could put 32 back into this equation and you would get 168.75. Next page. I hope that I don't have to really have to dive too deep inside of 8 if you got 7. What is number 7, x equals? 37 very good. What about number 8?

Students: 29.5

Teacher: What? Number 8, number 8. 99. Good. Do you see how we're getting these answers? Sum the interior take away what's given. Okay, and number 9. X equals?

Students: 6.

Teacher: 6. Number 10, x equals? 9.2? 9.3, something like that.

Students: I got 29. [crosstalk 00:19:50]

[00:20:00]
Teacher: Okay I'm going to add them all up then. 1, 2, 3, 4, 5, 6, how much is my sum of interior angles of a 6 sided polygon?

Students: [inaudible 00:20:08]

Teacher: 720? Okay, that's a lot of stuff equals 20. I'm going to take away what I can cancel right now. What can I cancel? Huh? I can cancel out this 6 and this negative 6. This 6 turns to a negative 12. Everything else I have to add. 12 plus 13, 25, plus 14?

Students: 39.

Teacher: 39.

Students: 51.

Teacher: 51, good.

Students: 68.

Teacher: 68. 41, 66. 41, right?

Students: 41. Right.

Teacher: 41, 51, 56? What? [crosstalk 00:21:12] 39, 51, 60?

Students: 7.

Students: 68. [crosstalk 00:21:21] 68.

Teacher: It's 61. 66.

Students: 66. 66.

Teacher: 66.

Students: Oh yeah it's 66. Then 79.

Teacher: 79.

Students: Come on DJ stop it already.

Teacher: The 720 plus, what was it 79?

Students: 79.

Students: Then you got to minus 1.

Teacher: Minus 1, yeah. Okay. I'm trying to add 12 to both sides. Do I get 732 equals 79 x.

Students: Divide by ...

[00:22:00]
Teacher: Divide by 79. I get x equals 9.2 something, 27. 9.3, yes. You round it up.

Students: [inaudible 00:22:08] I think it was 67 or 66.

Teacher: Okay. Going onto 21.4. only one page here. The sum of the measure of exterior angles of a 15-gon is? 360, Jacob. Of all people you shouldn't be talking. You were not here last time. You both weren't here last time. The measure of one exterior angle is what?

Students: 360.

Teacher: The measure of one exterior angle is what?

Students: 24.

Teacher: 24. Find the value of x. X equals? 13. Good. The sum of a polygon is 360, the exterior angles. How many sides does it have?

Students: It has 5 sides.

Teacher: You have no idea. You have no idea. The interior. [crosstalk 00:23:20] the exterior, any polygon has a sum of exterior 360 angles. Moving on 21.5, are we ready to move on?

Students: Yeah.

Teacher: Okay. Let's move on. Thank you. Uncle George is grandma's brother.

Students: Grandma's brother.

Teacher: Grandma's brother is Uncle George. [crosstalk 00:23:47] Remember he gazebo?

Students: Yeah.

Teacher: [00:24:00] He is now going to be making flooring for the gazebo. [crosstalk 00:23:56] She has another [crosstalk 00:23:58] gazebo so far.

Students: what do you build the grounds for [inaudible 00:24:03]

Teacher: We're putting in the [crosstalk 00:24:07] floor. [crosstalk 00:24:08] wood but now we can choose the tiling or whatever else. Okay. Now we have to figure out because Uncle George doesn't have that much money and he has to save money because he's living with Grandma. He wants to make it so he buys just the right amount of flooring and just the amount that he wants and he needs. We're going to ... [crosstalk 00:24:31] What?

Students: He's poor.

Teacher: [crosstalk 00:24:36] live together right? [crosstalk 00:24:43] Everybody can live with Grandma. Okay, find the area of the gazebo floor. Look at this hexagon. It's a hexagon. Before we have to go to the hexagon, sorry, look at your table and it says sketch a triangle, square, and the rectangle. Can you please do that right now? Triangle, square, rectangle. If you can sketch that, then try to figure out the equation for the area of finding a triangle, square, and rectangle area.

Students: [00:26:00] What was it, base times height? What is the [inaudible 00:25:22] [crosstalk 00:25:25] I don't know. Isn't it all the sides together? [crosstalk 00:25:33] All of them? [crosstalk 00:25:50]

Teacher: Thank you. [crosstalk 00:26:24]

Students: Is that correct?

Teacher: Keep going? [crosstalk 00:26:34]

Students: What's this one now?

Students: Length time width.

Students: This one?

Students: Base times height. [crosstalk 00:26:53]

Teacher: You have something like this. The area equals 1/2 base times height. All sides are equal we say x or if you said s for side squared that would be fine. For a rectangle, area equals base times height or length times width. L times w is appropriate too. Now look at the
[00:28:00] hexagon. How can you break up that hexagon and see triangles? You can bring in 6 triangles. Okay. Let's try to do that right now. You see that [crosstalk 00:28:09] We see that we have triangles that we could break up and these are equilateral triangles. Equilateral triangles mean, what? They're all the same. If I took this chunk out right now, I have a triangle that with a size of 12, around. Now do I know the height of this triangle?

Students: No.

Teacher: Can I find my height?

Students: Yeah.

Teacher: Yes I can. If I break it into half, this is a right triangle, right? What is this half of the top? 6. What is this hypotenuse?

Students: 12.

Teacher: 12. What is the side. You remember especially right triangles? [crosstalk 00:28:59] There's a radical involved. [crosstalk 00:29:04] Pythagorean theorem. You want me to do the Pythagorean theorem right now?

Students: Yeah. [crosstalk 00:29:14]

Teacher: A squared plus b squared equals c squared, right. You can do this. A squared is 6 squared plus b squared, we don't know equals 12 squared. Therefore 26 plus b squared equals 44 and it looks very complicated but just remember your relationships through this. I would take away 36 on both sides. B squared, 108. Therefore, that simplifies to 6 radical 3. [inaudible 00:29:46] does that answer your question as to why you got that?

Students: Yeah.

Teacher: Okay. How do I find the area of this triangle here? [crosstalk 00:29:56] Base times
[00:30:00] height. One half base time height, which is one half base times height which is one half times 6 radical 3 times 6. What is that? 18, radical 3? 6 times 6, 36 divided by 2? Okay. Now I have that. How do I get from the triangle area here to double triangle area.

Students: Multiply by 2.

Teacher: Multiply by 2 so what is it going to be?

Students: [crosstalk 00:30:26]

Teacher: 36 radical 3, are you with me? [crosstalk 00:30:38] I have 36 radical 3 in all of these. I would multiply by 6, very good Student. What is that equal to? What do we get, 36 times 6?

Students: 216.

Teacher: 216 radical 3, that is my area. Okay? We can find areas of polygons if we can try. [crosstalk 00:31:17] Now we have a parallelogram. Parallelograms are special, why are they special? Why are they special for us?

Students: They are parallel sides.

Teacher: They have parallel sides and what else? [crosstalk 00:31:38] Congruent angles. Good, or 2 pairs of congruent angles. What about their opposite sides? [crosstalk 00:31:47] The opposite sides make a triangle? They are?

Students: They're parallel.

[00:32:00]
Teacher: They're congruent. Looking at this, we know how to find areas of triangles, squares, and rectangles. What shapes can you create? [crosstalk 00:32:02] You see a triangle over here, and a triangle over here. Good. Are they the same size?

Students: Yes. [crosstalk 00:32:14]

Teacher: Yeah, they are. Okay. Now, how am I going to find the area? Can I move this triangle somewhere else to make it into an image?

Students: You put it on the other triangle right?

Teacher: Good, I could put it on the other side of the triangle. I would move it here? Do I know have a very big rectangle that I can use? Good. What is my area of a parallelogram? How do I find the area of a parallelogram? Area is?

Students: Area equals ...

Teacher: Use letters. [crosstalk 00:32:45] Base times height. You don't have to divide by anything, add anything to it, no. I'm done. This is how I find the area of a parallelogram. Okay, can I move on to the trapezoid, now?

Students: Yeah.

Teacher: Okay. Trapezoid. You remember trapeziod, what are special with trapezoids? One pair of parallel sides, good. Anything else? Do you see how a trapeziod could eventually be a rectangle if we took the average of their bases, if I cut them in half right here? Do you see that and add it through here?

Students: Yeah.

[00:34:00]
Teacher: Okay, this is how we get the area of the trapeziod. B1 plus B2, divided by?

Students: Height?

Teacher: [00:34:00] The average of the bases. Then we go multiply by the height. I think you may have earned this before, but it's just a refresher. That is your area. [crosstalk 00:34:23] No, yes. Can you please fill in the table in the next page? Parallelogram, fill in the table on the next page. [inaudible 00:34:32] trapeziod? [crosstalk 00:34:57]

Students: You said to do this one.

Teacher: [00:36:00] [inaudible 00:35:05] fill in your table. I gave you this. [crosstalk 00:35:19] If you're done filling in your tables, very good. If you're done filling in your table, go and do the practice problems 3 and 4. Trapeziod and parallelogram we're going to go over the answers in about 4 minutes and I want you to try those on your own. Yes. It really doesn't matter.

Students: Is the parallelogram [inaudible 00:36:14] [crosstalk 00:36:24]

Teacher: What is that?

[00:38:00]
Students: I broke my pen. [crosstalk 00:37:40]

Teacher: Okay what's the area of the trapeziod? What's the area of the trapeziod? What's the area of the trapeziod? Bradley, what's the area of the trapeziod? [crosstalk 00:38:19] 47.25.

Students: Wow I was right. [crosstalk 00:38:24]

Students: 74.25.

Teacher: What about the parallelogram? 192. Okay, we're moving on. 21.6, no we're just finishing up. We are, 21.6 okay, moving on. Stop complaining please.

Students: Stop. Oh, Uncle George back at it. [crosstalk 00:38:45]

Teacher: Student.

Students: Shit, she went Student! [inaudible 00:38:54]

Teacher: [crosstalk 00:38:56] We'll come back.

Students: That's what I said. [crosstalk 00:39:00]

Teacher: Okay. Recall how we calculated. How do we calculate Grandma's hexagonal gazebo area?

Students: Take the triangle, and find the area of at least one.

Teacher: Mm-hmm (affirmative). Take the triangles and find the area of each one. Good. Now what happens if the size was reduced to 6 feet? Do we know?

Students: No.

Teacher: How will that affect the total area? Imagine the hexagon again. [crosstalk 00:39:39] If this side is 6 feet, this side is 6 feet, therefore if I had that half triangle, what would by base be?

Students: 3.

Teacher: 3, what would my hypotenuse be 6? What would my other side be?

Students: 63. 36. 6.

Teacher: What is the radical that's always in this?

[00:40:00]
Students: 6. 6 radical 3.

Teacher: This is radical 3, but we also take the smaller [inaudible 00:40:01].

Students: 3 radical 3.

Teacher: 3 radical 3. My area is going to be what?

Students: 3, 9.

Teacher: 9 radical 3. 9 radical 3 because I have to divide by 2 but I multiply by 3 that equals the triangle again. 9 radical 3. 9 radical 3 times by how many triangles are there? 6. I get 54 radical 3. How does that compare to 216 radical 3? It's not half.

Students: It's one fourth.

Teacher: It's one fourth. The new area is one fourth the original. The ratio of the resulting area is ... I don't like how that's written. I would rather you take 6 and 12 as 12 is to 6 because we're getting smaller. Therefore it's 2 to 1. Therefore the ratio resulting area is 4 to one. That's the resulting area, is 4 to one. What did I ask you to do? I asked you to change the ratio, switch them around, 12 to 6, 2 to 1. Then we have 4 to one ration in the area. Okay? If the side left would increase 2 24 feet, the ratio of the [inaudible 00:41:40] would be ... I'm going to change it around again. I don't like how it's stated because we're getting smaller to bigger, would be 12 to 24, or one to 2. Therefore what would the ratio of the area be from the original to the larger one? Notice how I went from 2 to [00:42:00] one first. What is it going to be now? 2 to 1 became 4 to 1, what is 1 to 2 going to become? 1 to 4, very good.

We're going to explain a bit more as we go along but this is just getting our minds thinking about this. Good. [crosstalk 00:42:21] Algebra 1. Do these. Do you think it's going to hold true for all polygons?

Students: Yeah.

Teacher: Probably. Yes. Okay. Let's try it out with square and then with triangles. I'm going to move down the page here. Squares. If a square has a side of one inch, what is it's area?

Students: 1.

Teacher: Half of one.

Students: That's 1.

Teacher: That's one times one. 1 inch squared, that's my area, I inch squared. If I reduce the sides by 50% what is my side going to be? .5. I find the area, .5 times .5 gives me what?

Students: .25.

Teacher: .25. O.25 inches squared. What's the ratio of the sides? Look, we're going to go 1 to 0.25. I can't use decimals. What do I have to multiply both sides by to get a whole number here. What do I have to divide that by?

Students: 4.

Teacher: 4 good. Now I get 4 is to 1. That's my ratio. 4 is to 1. What's the ratio of the area? 4 to 1. Is this looking familiar to you? It's about making larger and smaller pictures. Now [00:44:00] triangle. If a triangle has a base of 2 cm, and a height of 1 cm what is the area? One half times 2 times 1 is what? One half times to is?

Students: 1.

Teacher: 1. Times one is?

Students: 1.

Teacher: 1. I have 1 cm squared. Increase each dimension by the ratio of 5 to 2. That's a little confusing but what is 5 divided by 2?

Students: 2.5.

Teacher: 2.5, I'm just going to take 2.5 here. What is the area of the triangle, now I'm going to multiply every number here by 2.5. I have 1/2 base times height but my new base is going to be 2 times 2.5 which is 5. My new height is going to be 2.5 times 1, 2.5. That's confusing, bear with me. This is going to be 6.25. Now what is the area of the new triangle, 6.25 cms squared. The ratio of the areas is now 1 is to 6.25. I can't have a decimal so what do I multiply both sides by?

Students: 4.

Teacher: 4. I get 4 to 25. The ratio between dimensions of two similar triangles is a to b, what is the ratio of the area. Okay, now, look at this now. Here's a relationship that we just saw.
[00:46:00] We saw 2 is to 1 in dimensions or less. Then we see 4 is to 1 in area. Look at how this number [inaudible 00:46:03]. Next one. We see 2 is to 5 in dimension [in length 00:46:18] and we see 4 is to 25 in area. What's the difference between the top numbers and the bottom areas. What's the relationship between 2 and 4? 1 and 1? 5 and 25? 5 and 25's probably going to give it away. What is it? It's divisible yes but [inaudible 00:46:44] what do you see?

Students: [crosstalk 00:46:44] multiplied by themselves is [inaudible 00:46:47].

Teacher: Very good so we see that the length if the ratio of the length of a to b, we see the ratio of the areas being a squared to b squared. We multiply by itself to get our area. In the last thing I think it's in the theorem, area similar of polygon, that last leg it needs to be, then a squared is to b squared. The last [inaudible 00:47:15] a squared to b squared. That's a theorem that you're going to use in your homework and in lessons today. Now let me now [inaudible 00:47:24] Let's go on. Let's go on. Next page. Now Uncle George is going to buy molding. Do you know what molding is?

Students: [crosstalk 00:47:34]

Teacher: That's molding clay, but molding is this thing on the ground right here. He's going to frame the floor with this molding thing. This is my molding down here. This is my blue thing. Make it look pretty. He's going to use really expensive price, he doesn't want to
[00:48:00] use plenty. [crosstalk 00:48:02] I don't know because grandma has expensive tastes, we all know this.

Students: True.

Teacher: Grandma's rich. Her brother, not as rich. The perimeter of [inaudible 00:48:14] what will the perimeter if every side is 12? 12, 12, 12, 12 ... 12 times 6 is?

Students: 72.

Teacher: 72. What about the perimeter of of a 6? What's it going to be?

Students: 36.

Teacher: 36. What is the relationship now? We see that it's going to be 12 is to 6 in the sides. The sides are 12 to 6, which is the same thing as 2 to 1? The perimeter is 72 to 36. What does that simplify to?

Students: 2 to 1.

Teacher: 2 to 1.

Students: Boom.

Teacher: Mm-hmm (affirmative). Now we do the large part of the gazebo with a 24 foot radius we get sides of 12 to 24, therefore my perimeter relationship would be what? It's the same thing as 1 to 2. It's going to be 1 to 2. If the dimensions of similar polygons have a ratio a to b, the ratio of perimeters are a to b. Do you know why area is a squared to b squared and perimeter is a to b?

Students: No.

Teacher: [00:50:00] No. Okay, think about it this way. This is talking about 2 dimensions, but that's not usually what we ever think of because we live in a 3 dimensional world. [inaudible 00:49:56] Anyways. Have you ever heard of the [inaudible 00:50:05]?

Students: Yeah.

Teacher: Yeah? Really?

Students: They can't walk through the wall.

Teacher: He can't walk into a wall, but what does that wall look like? [crosstalk 00:50:16] Yeah. They drew a stick right here. He's so happy and he's walking this way and then I draw a line. Can he go around the line? What if I went infinite? No? [crosstalk 00:50:39] my world is ending. End of my life right there. That's 2 dimensions, right. He lives on the sheet. However, when we talk about perimeter, and we talk about sides, they live in one dimension. They live in just that one line, nothing more. They don't have any stick figures, just one line.

Students: That sucks.

Teacher: Therefore, that's why it's a to b. Everything is similar because if you have a shape and you unravel it into a perimeter, it would just be one line. However, you have area, that means you have space, so you have to have 2 dimensions and that's where the square comes in. When we talk about laws it would be the triple because [inaudible 00:51:25]. That is why a squared to b squared because of the area and having 2 dimensions. Okay, now what am I going to do? I'm going to give you 4 minutes right now to do that practice down below.

Students: Right here?

Teacher: Yeah. No. Here.

Students: Oh.

Teacher: [00:52:00] Okay finish this practice, 4 minutes right now. Then we're going to move on. [crosstalk 00:51:53] What does that simplify to?

Students: [inaudible 00:53:00]

[00:54:00]
Teacher: No but there's a decimal, 5 squared is what? [crosstalk 00:53:07] [inaudible 00:54:39] Yes very good. Okay. What is the ratio of the areas? If this is 5 to 3, then what?

Students: [inaudible 00:55:46]

Teacher: What is 5 squared?

Students: 25.

Teacher: [00:56:00] 25 to? [crosstalk 00:55:50] Okay, what about the ratio of the perimeter? 5 to 3, good. [crosstalk 00:55:55] What about dimensions of the second one? 7 to 12 and? 7 to 12. I know that this is a Friday, it is hot in here, I get it. We have time for Monday so I will keep the next two pages for Monday.

Students: Thank you.

Teacher: You are still required to do your homework. 21.7. That does not change. You're awesome. [crosstalk 00:56:28]