PROBLEM SOLVED
MAKING SENSE OF MATHEMATICS

Multiplication Procedure
Video Script

Scene		Full Transcript
1	**Skylar:**	Hey there! This afternoon, I'm here at Ray's Floors. The owner, Steve, is a friend of mine. Now and then, he asks me to stop by when he has a new employee that's struggling with math.
2	**Voice-Over Skylar:**	This guy is struggling to calculate an estimate for a couple interested in putting ceramic tile in a large room.
3	**Skylar:**	If we just spend a few minutes with multiplication and area models, he should be good to go. Can you imagine how upset the customers would get if the math is incorrect? They could wind up with way too many tiles or not enough to get the job done. Why don't we keep the new guy out of trouble and get another *Problem Solved*.
4	**Skylar:**	Here's the type of tile the customers are interested in. It measures one foot by one foot, or one square foot. The room they would like to tile measures 17 feet by 43 feet. How many tiles will it take to cover the entire floor?
5	**Voice-Over Skylar:**	The problem is all about multiplication. First, I'll draw a rectangle to represent the room. We know that the room measures 17 by 43 feet. To calculate the number of tiles, or the area, we simply multiply the width times the length, 17 times 43. We are going to show two ways to get the answer: a standard way, which we will get to in a minute, and using an area model. When we use an area model, we can break it into parts that are easy to calculate. For instance, we can break 17 into 10 and 7, and we can break 43 into 40 and 3. So, instead of one challenging problem, we have four simple problems. Seven times 3 is 21. Seven times 40 is 280. Ten times 3 is 30. Ten times 40 is 400. Next, we add the four areas. Twenty-one plus 280 equals 301, and 30 plus 400 equals 430. So, our total is 731.
6	**Skylar:**	You can use an area model any time you need to make sense of the multiplication procedure. Let's look at our problem again, and this time record a standard procedure as we explain why it works.
7	**Voice-Over Skylar:**	First, multiply 7 times 3. That's 21. We record the 1 and the 2 tens. Seven times 40 equals 280, plus the extra 20 is 300, plus the 1 we've already recorded is 301. Now, cross off the 2 tens we've already used. Next, we can multiply by 10. Ten times 3 is 30; record the 30. Then, 10 times 40 is 400, plus the 30 is 430. Finally, we add 301 and 430 for a total of 731. It will take 731 tiles to cover the floor.
8	**Skylar:**	Today we're using tile, but this would work when laying carpet, painting a wall, or even building a patio. You know, I think we've *covered* the multiplication procedure. *Problem Solved*.

MakingSense