Area of a Triangle
Video Script

Scene		Full Transcript
1	**Emily:**	Hey, what's up? Emily here, and I'm hanging out with the band, the Trilaterals.
	Voice-Over Emily:	The guys are getting ready to go on their third tour. You wouldn't believe all the details that go into planning, from what music to play right down to the design of the stage. In fact, that's why I am here. They're designing the drum riser where Nick plays his kit; it's big and in the shape of a triangle.
2	**Emily:**	Here are the plans for Nick's triangular-shaped riser. The challenge is Nick wants to cover the top of the triangle with metal like this. We need to find the area of the triangle so Nick can purchase the correct amount of metal covering. Let's help the tour to take shape and get another *Problem Solved*.
3	**Emily:**	First, you must know two key elements about the triangle: the length of a base and the corresponding height of the triangle.
4	**Voice-Over Emily:**	As you know, a triangle has three sides; any of the sides can be the base. It is important to keep in mind that a triangle does not have to sit on its base. Once you choose a base, the height of a triangle tells you the distance from that base to the vertex opposite that base. No matter which base you choose, the height is always perpendicular to the base. That means the base and height form a right angle. Take a look at this. The height of a triangle can also be the side of the triangle, if the side is perpendicular to the base. See the right angle? It's a right triangle. When the triangle is obtuse, it has one angle greater than 90°. The height for this base falls outside of the triangle. That's okay; it is still the height.
5	**Emily:**	Now let's find the area of a triangle. The formula is easy to understand, if you think about the area of a parallelogram which is found by taking base times height. Why are we talking about parallelograms?
6	**Voice-Over Emily:**	Because you can place two of the same, or congruent, triangles together to form a parallelogram. There is more than one way to make a parallelogram. Watch this. Look at this parallelogram. Notice the parallelogram and our triangle have the same base and same height. Since the area of the parallelogram is found by taking base times height and each of the triangles is half of the parallelogram, the area of one triangle is

		simply one half of the area of the parallelogram. Make sense?
7	**Voice-Over Emily:**	Here is the triangle on the stage. We want to find its area. Remember, the area for any triangle is ½ base times height. Let's use this side as our base. It measures 18 feet and the corresponding height is 6 feet. So, the area of our triangle is ½ of 18 times 6, which is 54 square feet. Nick needs to purchase 54 square feet of metal.
8	**Voice-Over Emily:**	Here is one more key point to remember: the area of a triangle does not change. You can use any side as a base and its corresponding height to do the calculations. Let's use this side as our base. It measures 12 feet and the corresponding height is 9 feet. The area is ½ of 12 times 9, which is still 54 square feet. It's that easy, and it works for any triangle, ½ base times height.
9	**Emily:**	There, now you and the Trilaterals are ready to play with finding the area of triangles. *Problem Solved*.