What is π?
Video Script

Scene		Full Transcript
1	**Carlos:**	Hey, everybody! It's Carlos. My friend Bre is into architecture and landscape design. When her teacher required everyone in the class to do a job shadow on a career that they were interested in, Bre knew just where to go, Larry's Landscaping.
2	**Voice-Over Carlos:**	Her week is off to a good start; she's learning all aspects of the business. She even came up with an awesome design of her own. The only problem is that she didn't calculate how much math goes into landscaping. She's stumped trying to find out the area of this circular garden and how much edging it will take.
3	**Carlos:**	Looks like we need a lesson on understanding pi. Grab a shovel and let's dig into another *Problem Solved*.
4	**Carlos:**	Here's Bre's design. First, we need to understand that there is a relationship between the diameter and the circumference of any circle. Here's how I explained it to Bre.
5	**Voice-Over Carlos:**	I asked her to compare the circumference and diameter of several circular items around the shop, everything from flowerpots to coffee cups.
6	**Voice-Over Carlos:**	Watch what happens. No matter how large or small the circle, it always takes a little more than three diameters to equal the circumference. If you don't believe me, try it for yourself. It works.
7	**Voice-Over Carlos:**	Now, let's measure the circumference and the diameter of each of these objects and record the measurements in the chart. Then, we divide the measure of the circumference by the measure of the diameter. Look at these ratios! You always get a little more than three. You can even use different units of measurement. It will always be about three.
8	**Carlos:**	And, if we could be exact, we would get the same number every time, and that number is pi. Pi is a Greek symbol for an irrational number. That means that it goes on forever without ever repeating. Mathematicians, with the help of computers, have calculated pi to over a million decimal places. Whoa!
9	**Voice-Over Carlos:**	Let's look at this circular garden. If the circumference divided by diameter equals pi, then circumference equals pi times diameter. Knowing the circumference will tell Bre how much edging she needs. The diameter of this circle is 16 feet, so the circumference is about 50.24 feet. Can you

		believe how easy that is?
10	**Voice-Over Carlos:**	Now, Bre needs to determine the area of the circle for planting. Pi is also used to find the area of a circle. You can find the area of a circle by using the formula πr^2, but do you really understand why? R is the radius, but what is the radius squared? Here is the radius, and here is the radius squared. Let's cover the circle with radius squares. How many do you think it will take? One fits easily. We can cut up a second radius square to make it fit. We need to cut the third radius square up even more, but it also fits. Just a little bit of our circle is not covered, so it takes a little more than three radius squares to cover our circle, just like it took a little more than three diameters to equal the circumference.
11	**Carlos:**	The important relationship to remember is that the area of any circle is approximately 3 times its radius squared or exactly pi times the radius squared.
12	**Voice-Over Carlos:**	Back to our garden – the radius is 8 feet, so the area is pi times 8 squared. That's pi times 64 or approximately 200.96 square feet.
13	**Carlos:**	It works every time, as designed. Bre here is set on her new career path, and now you know the meaning of pi. *Problem Solved.* Oh, I love this.