Small Number and the Skateboard Park

Small Number is a young boy who gets into a lot of mischief. He lives in a big city with his mother and his older sister Perfect Number. Every Sunday afternoon, Small Number does his math homework. When he has trouble with math, he usually asks his sister for help. But this Sunday he has a geometry problem that looks very difficult and he decides to ask his cousin, Full Angle, who studies mathematics at the university.
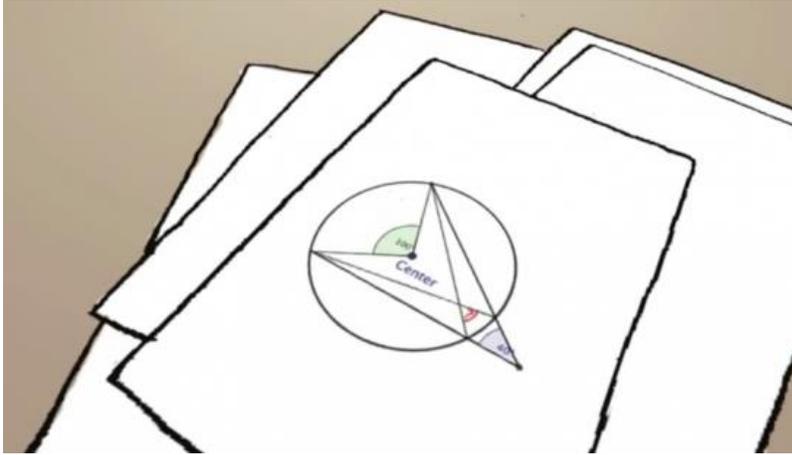

When Full Angle walks through the door, he leans his skateboard against the wall, and walks over to give his aunt a hug. Small Number eyes the brightly painted skateboard.

Full Angle looks at Small Number's homework problem and smiles. "*I love geometry problems!*" Small Number frowns: "*What good is geometry for?*"

Full Angle looks around the room and spies a rug that their grandmother had made hanging on the wall. He points at it and says to Small Number: "*Look at all the shapes in Grandma's rug. She was able to see those geometric shapes and patterns in her head and then figure out how to weave them so beautifully into the rug. She must have been an excellent geometer!*" "*Well, maybe I like that kind of geometry,*" says Small Number.

Full Angle doesn't give Small Number the answer to the problem, but starts asking him questions instead. At the beginning, Small Number is not sure where it is all going, but after a while, he sees that Full Angle's questions helped him to fully understand the problem. When Small Number writes down the final answer, he jumps up and shouts: "*Wow! I did it!*"

As Full Angle is congratulating Small Number on his success, Perfect Number comes in to greet her cousin: "*Are you still skateboarding, Full Angle?*" "*Yes. I want to be good enough to compete at the All Nations Skate Jam! I was just heading out to practice when Small Number called me. Would you and Small Number like to come to the skateboard park near the Friendship Centre?*" "*Sure!*" both Perfect Number and Small Number shout together.

As they head to the skateboard park, Full Angle starts talking about the tricks he can do on his skateboard. "*I can do a 360 and a 720,*" he says. Small Number looks quizzical: "*What's a 360 and a 720?*" By now, they have reached the skateboard park: "*Let me show you.*"

Full Angle points to two ramps that are the same height, but different shapes. One is flat, and the other is curved like the inside of a cylinder. "*I'll show you a 720.*" He hops on his skateboard and heads for one of the ramps, building up a lot of speed. As the front of his board comes off the ramp, he grabs it and spins around fully two times before letting go and landing perfectly! Small Number and Perfect Number are amazed and start jumping up and down. "*I want to learn to do that!*" says Small Number. "*Well, Small Number, then you better be ready to learn some geometry! You will have to learn to do a 360 first.*" Full Angle says, smiling at his cousin.

Question: How did Full Angle know which ramp to choose in order to have enough time in the air to spin around twice before landing?