



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> Nuri Kim	<b>Project Number</b>  22634
<b>Project Title</b> Simple As Pi?	
<b>Objectives/Goals</b> The objective is to try to get pi as accurately as possible using only math available to the average eighth grader (i.e.-- Algebra [not much], basic Geometry/Trigonometry, and arithmetic). <b>Abstract</b> <b>Methods/Materials</b> There are two experiments performed in this project. The first is Archimedes' Theory, where circles, polygon, and other basic Geometry/Trigonometry are applied to a formula credited to ancient mathematician Archimedes to calculate pi. The second experiment is Buffon's needle experiment, in which needles are tossed as randomly as possible on a grid many, many times. The data (whether the needle lands on a line or not) is recorded and processed through another formula, (this one discovered by French mathematician Comte De Buffon). <b>Results</b> Archimedes' Theory provided results accurate, though not on the dot. The results were only approximations, but this was expected. As for Buffon's needle experiment, I was surprised with my result which was remarkably after only 1,500 tosses. <b>Conclusions/Discussion</b> Tossing the needles was incredibly tedious, as was drawing the duodecagon for my project. I intend to improve my project's aesthetics and improve the project itself, a bit by increasing the number of tosses. I feel 1,500 tosses may have been enough for county, but will most definitely not be suitable for state.	
<b>Summary Statement</b> The average-minded eighth grader's search for pi.	
<b>Help Received</b> Teacher helped review simple trigonometry, Brother helped toss needles	