



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Jasleen K. Bains	Project Number J1202
Project Title Pi Calculation Methods and Practical Application in the Usage of Pi in the Scientific World	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The goals and objectives of this project are to compare three distinct formulas to find the most accurate and quickest formula that calculates Pi, find the importance of Pi, and actually finding out how our lives would be without this irrational number. Some questions that can be asked are: 1: What are some of the different ways that calculate the constant Pi? Is any method more accurate and efficient than another?</p> <p>Methods/Materials I used three distinct methods/formulas that calculated Pi: Buffon's Needle Experiment, Wallis Infinite Product, and Brent-Salamin Algorithm.(Each formula had a long procedure and since there is a 2400 character limit, each procedure will not be described in detail.) There was a total of ten trials and an average. Five materials were used: toothpick (2 5/8 inches), highlighter (green and blue), pencils, papers, and a ruler.</p> <p>Results The Brent-Salamin provided the most accurate calculation in approaching the value of Pi and the Buffon's Needle Experiment was the quickest formula. The real resultant from this data was that no method or formula can calculate Pi's exact value, except Pi, itself.</p> <p>Conclusions/Discussion After completing my investigation, on comparing different methods that calculate Pi, finding the importance of Pi, and how life would be without Pi, I discovered that the best method to calculate Pi was the Brent-Salamin Algorithm. So, if ever any circular objects are made the Brent-Salamin should be used. Technology is just an excuse. If one uses their own brain to figure something out, a pleasure that is somewhat unknown creeps into you. Also, only mathematicians don't use Pi, even farmers use this constant.</p>	
Summary Statement My Project is about comparing different formulas that calculate Pi to find the most accurate and quickest equation.	
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