CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
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Project Number
J1805

Project Title
To Pay or Not to Pay

Abstract

Objectives/Goals
"Is the seam of a $19.99 sewing machine as strong as the seam of a $ 1400 sewing machine?" I wanted to determine whether an inexpensive machine performed as well as the expensive sewing machines, by testing seam strength.

Methods/Materials
Materials : Combination wrench, Environmental chamber, United Calibration unit - Model number STM 10 - Computer System - Printer Utility Wrench Sewing Machine-Bernina - Virtuosa 150 - $1400 - Pacestter by Brother -1250 - $699 - Pfaff - Hobby 1016 - $169 - Sew Smart - $19.99 . Fabrics : acetate 100% cotton, 100% cotton, 100% polyester, 100% silk.
Procedures : A. Follow material procedures. Follow ASTM standards. Follow exact procedures of United Calibration Unit. B. I altered four sewing machines as the variable. Four fabrics were constant with each machine.Silk v. Silk in all trials. C. Sample size was 6 3/8 inches. There were 64 btrials. D. 7 measurements were taken to get to the 6 3/8 inches. Counting of fabrics. Labelling of all test samples.

Results
I learned that my hypothesis was correct. The inexpensive Sew Smart oveall proved to be a durable sewing machine in simple one seam tests. Overall, Sew Smarts seam out lasted the competition. Bernina was also excellent performer. Pfaff and Pacesetter by Brother suprised me with their poor results.

Conclusions/Discussion
In conclusion, the inexpensive machine worked bettnsive ser than its competition. Bernina, the $1400 sewing machine performed very well throughout the testing. Pfaff ($169) and Pacesetter by Brother ($699) were easy to use but did not prove themselvevs. I was especially disappointed with the Pacesetter by Brother. It is a very expensive sewing maachine but had poor test results.

Summary Statement
To determine whether the seam of a $19.99 sewing machine is as strong as the seam of a $ 1400 sewing machine.

Help Received
My mother helped type reports, I used CRT laboratories equipment under the supervision of Mr. Tom Parsons.