

Rockhurst University Mathematics Problem of the Month

Congratulations to Kaleb Waite, winner of December's contest. For the copier problem, he found that 51 shrinks followed by 89 enlargements gives an image size that is 2.00016 times the original! Honorable mention goes to Peter Simone. The contest is open to any currently enrolled Rockhurst student. The winner will be chosen according to who has the best solution (not just answer) to the problem. Ties will be resolved by considering the order in which the solutions were received.

Solutions should be submitted to Keith Brandt (Richardson 120) by the end of the month. Winners receive wonderful prizes, so give these problems some thought!

Problems For February 2006:

1. Veronica is driving a car at a constant speed on a country highway. She notices a mile marker that is two digits. One hour later she passes a mile marker that has the same digits reversed. One hour later she passes another mile marker that has the digits in the original order but with a zero between them. How fast was she going? What were the mile markers?
2. There is a wooden log 18 feet long whose ends are 5 feet and 2.5 feet in circumference. Assume the log tapers gradually from one end to the other. Into what lengths should the log be cut to trisect its volume? Hint: If you don't find an exact solution, give your best approximate solution.