

Rockhurst University Mathematics Problem of the Month

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 September 2007:

1. Two balls are selected simultaneously and at random from an urn containing 5 balls numbered 1, 2, 3, 4, and 5. Find the probability that 2 balls with odd numbers are selected.
2. Let f be a cubic polynomial with real coefficients. Prove the following: If f has three real roots (counting multiplicities), then the derivative of f has two real roots (counting multiplicities). Can this result be generalized?