

Rockhurst University Mathematics Problem of the Month

Congratulations to Jacob Ambrose, winner of October's contest. He wins a prize from the POM collection. Honorable mention goes to Peter Huhnerkoch and Amber Koehl. 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 November 2007:

1. The planes $x+2y+3z=0$ and $x+2y+3z=5$ are parallel. Find the (shortest) distance between the two planes.
2. Using 100 in. of string, build a tent-shaped figure consisting of an isosceles triangle with a pole in the middle (see figure). Find the dimensions of the figure that maximize the area of the isosceles triangle. If no one finds the exact solution, the winner will be the one whose triangle has the most area. Make sure your four pieces (the base, the two sides, and the pole) add up to a total length of 100. State the area of the triangle.

