Problem of the Week

Number Four

The tangent and the cotangent slug it out in this week's problem. Enjoy!

Assume that $0° < \theta < 45°$. Define the following:

$$t_1 = (\tan\theta)^{\tan\theta} \qquad t_2 = (\tan\theta)^{\cot\theta}$$

$$t_3 = (\cot\theta)^{\tan\theta} \qquad t_4 = (\cot\theta)^{\cot\theta}$$

Arrange t_1, t_2, t_3, t_4 in order from largest to smallest.

FOLLOW THESE INSTRUCTIONS TO THE LETTER:

Please place your name and e-mail address at the top of this page. If you are receiving class credit for participating, please indicate the course number and your professor. Your answer to the problem, coupled with a clear explanation of how you arrived at it, should appear on the back of this page. Be sure to write neatly! If I can't easily read your paper, then I will discard it.

Due **Tuesday, March 3** by 5:00 to Jason Rosenhouse in Roop 121. One weekly winner will receive a five dollar gift card to Greenberry's, and will be chosen randomly from among the correct answers.