

♣ Problem of the Week ♣
Due at noon on 4/13/2012

Problem:

Given that $\cos 36^\circ = \frac{1}{4} + \frac{1}{4}\sqrt{5}$, show that
 $(\tan^2 18^\circ)(\tan^2 54^\circ)$ is rational.

Rules: This contest is open to Cumberland University students only. Solutions must be submitted by the deadline indicated. The first student to submit a correct answer wins the prize (\$10.00). Any outside sources must be cited. All work must be shown. Work will initially be judged by Dr. Gammon. Disputes will be sent to another mathematician for a second opinion. Submit your solutions either typed in e-mail to kgammon@cumberland.edu or written legibly to Dr. Gammon, Memorial Hall room 310 A.