

# Math Competition

*Problem #1: March 13, 2015 to March 27, 2015*

Find all positive integers  $x$ ,  $y$ , and  $z$  satisfying the equation

$$31x + 30y + 29z = 366.$$

**Justify your answer:** Prove that there are no other triplets  $(x, y, z)$  different from yours.

*Direct any questions to  
Gregory Galperin, OM 3361*

## Rules & Rewards

- Any undergraduate currently enrolled at EIU is eligible to participate.
- Each solution is to be the work of one individual and is to be submitted with the solver's name, year in school, email address, local address, and home address.
- Each solution is to be written or typed and is due in the main Mathematics Department office (OM 3611) by 2:00pm, Friday, March 27, 2015.
- Entries will be judged on the basis of clarity of exposition and elegance of the solution. That is to say, the *explanation* is more important than the answer.
- An award of \$25 will be given for the best solution. In the case of a two-way tie, the award will be evenly split. If there are more than two 'best' solutions, a drawing will be held for the reward. In the case no award is made for this week's challenge, \$25 will be added to the next week's award.
- Names of all solvers will be posted on the Challenge of the Week bulletin board and on the Challenge of the week homepage: <http://www.eiu.edu/math/challenge.php>