



Problem Set of the Week

Problem 1 - Algebra

(★)

Let a, b, c be positive integers such that

$$a + \frac{1}{b + \frac{1}{c}} = \frac{25}{19}.$$

What is the product abc equal to?

SOLVED! Correct answer: $abc = 18$.

Problem 2 - Algebra

(★★)

Let the set $\{1, 2, 3\}$ be the domain and let the set $\{1, 2, 3, 4\}$ be the range of a relation and consider all possible relations between these sets. How many of the relations are functions?

Problem 3 - Algebra and/or Calculus

(★★★)

Let a, b, c be three positive real numbers. Find the least possible value of the expression

$$\frac{a+b}{c} + \frac{b+c}{a} + \frac{c+a}{b}.$$

SOLVED! Correct answer: 6.

Rules: Solve one problem or solve them all. Submit solutions to Dr. Luke Grabarek in Snodgrass Hall 103A or via e-mail at lgrabarek@matsu.alaska.edu. All submissions will be awarded a ★ and, in addition, correct solutions receive the ★ rating of the problem.

"Mathematics is like checkers in being suitable for the young, not too difficult, amusing, and without peril to the state." - Plato