UNIVERSITY OF WISCONSIN
PLATTEVILLE
DEPARTMENT OF MATHEMATICS

Problem of the Week #6

(Fall 2016)

Given three distinct real numbers p, q, and r, find a quadratic polynomial $f(x)$ such that

$$\begin{cases} f(p) = q, \\ f(q) = r, \\ f(r) = p. \end{cases}$$

[Please fully explain your answer.]

Solutions should be submitted to Cinda Furry, in Gardner Hall 435, by 4:00 P.M. on Wednesday, October 26, 2016.

Every week, the best solution submitted earns a $10 Platteville gift certificate; the top scorer each semester also wins a cash award. Good luck!
You can always see the Problem of the Week (and complete rules) online at:

`http://www.uwplatt.edu/mathematics/problem-week`