



## Problem of the Week

### Problem E

#### Sum Product Function

A function,  $g$ , has  $g(2) = 5$  and  $g(3) = 7$ . In addition,  $g$  has the property that

$$g(a) + g(b) = g(ab)$$

for all positive integers  $a$  and  $b$ .

For example,  $g(6) = g(2) + g(3) = 12$ .

What is the value of  $g(648)$ ?

$$g(a) + g(b) = g(ab)$$

