Problem of the Week
Problem C
These Primes are Squares!

The number 7 has only two positive factors, 1 and itself. A positive integer greater than 1 whose only positive factors are 1 and itself is said to be prime.

A perfect square is an integer created by multiplying an integer by itself. The number 25 is a perfect square since it is $5 \times 5$ or $5^2$.

Determine the smallest perfect square that has three different prime numbers as factors.

**Perfect Squares** → 1 4 9

**Primes** → 2 3 5 7

**Neither** → 6 8

**Extension**: Determine all perfect squares less than 10,000 that have three different prime numbers as factors.