MODULE *calcm*

EXTENDS *Naturals*
CONSTANT n
ASSUME $n \in Nat \land n > 4$
VARIABLE p, z
$primeNum(q) \triangleq$ INSTANCE *prime* WITH $pr \leftarrow q$
$isPrime[m \in Nat] \triangleq primeNum(m)!Next$

$$
\begin{aligned}
Init \triangleq\ & z = 0 \land p = 0 \\
& \land primeNum(n)!Init
\end{aligned}
$$

$$
\begin{aligned}
Next \triangleq\ & \text{IF } z = 0 \\
& \text{THEN } p' = p \setminus 2 \ \land z' = z + 1 \\
& \text{ELSE } p' = p - 1 \land \\
& \qquad \text{IF } isPrime[p'] \land isPrime[z] \land isPrime[p + z + z] \\
& \qquad \text{THEN UNCHANGED } \{p, z\} \\
& \qquad \text{ELSE } z' = z + 1 \ \land Print(p, \text{TRUE})
\end{aligned}
$$

$H \triangleq Init \land \Box[Next]_{\{p, z\}}$

THEOREM $H \Rightarrow \Box Init$

* Modification History
* Last modified Sun *Mar* 24 14:06:30 *CET* 2013 by *mauxpport*
* Created *Wed Mar* 20 20:26:24 *CET* 2013 by *mauxpport*