

Name:

Problem 1: *It is a fact that $\sqrt{38,593} \approx 196.45$.*

True, false, or insufficient information to answer: The integer 38,593 has a prime divisor less than or equal to 196.

For full credit you must justify your answer.

Solution: This is **false**. Lemma 4 states that any *composite* number n has a factor less than or equal to $n^{1/2}$. However, $n = 38,593$ is prime, so it has no prime divisor strictly less than itself.