Name Mr. Key Seat _____

MathSci 119 sec.1

Quiz 1 January 21

1. Finish this definition of *prime* :

An integer p is called *prime* provided $p>1$ and the only positive divisors of p are 1 and itself.

2. For each of the following numbers, say whether it is prime or not and if *not* explain *why not*:

(a) π Not a prime because it is not an integer.

(b) 2 is a prime,

(c) 1807 Not a prime because $1807 = 13 \times 39$, so 13 and 39 are divisors not equal to 1 or to 1807.

3. How many positive divisors does the number 1800 have?

$1800 = 2^3 \times 3^2 \times 5^2$ so it has $(3+1)(2+1)(2+1) = 36$ positive divisors.

4. State the hypothesis and conclusion of the following statements:

A positive integer a is a divisor of a positive number b only if $a \leq b$.

hypothesis: a and b are positive integers with $a|b$

conclusion: $a \leq b$

To do well in Mthsc 119 it is necessary to be able to do proofs.

hypothesis: One does well in Mthsc 119.

conclusion: One can do proofs.