1. Please remember that homework solutions should be:
   - Clear
   - Concise
   - Precise
   - Legible (if handwritten).

2. An example\(^1\):

   (Yes) "According to the ‘fundamental theorem of arithmetic’ (proved in ex. 1.2.4-21), each positive integer \(u\) can be expressed in the form
   \[
   u = 2^{u_2}3^{u_3}5^{u_5}7^{u_7}11^{u_{11}}\ldots = \prod_{p \text{ prime}} p^{u_p}
   \]
   where the exponents \(u_2, u_3, \ldots\) are uniquely determined nonnegative integers, and where all but a finite number of the exponents are zero."

   (No) "If \(L^+(P, N_0)\) is the set of functions \(f : P \rightarrow N_0\) with the property that
   \[
   \exists n_0 \in N_0 \quad \forall p \in P, \quad p \geq n_0 \Rightarrow f(p) = 0
   \]
   then there exists a bijection \(N_1 \rightarrow L^+(P, N_0)\) such that if \(n \rightarrow f\) then
   \[
   n = \prod_{p \in P} p^{f(p)}.
   \]
   Here \(P\) is the prime numbers and \(N_1 = N_0 \sim \{0\}\)."

3. Show that \(P = NP\).
   (a) If \(N = 1\) then \(P = P\).
   (b) If \(P = 0\) then \(0 = 0\).
   (c) Collect $1 million.

\(^1\)Taken from *Mathematical Writing* by Knuth, Larrabee, and Roberts.
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