

1. According to the definition in NZM, what criteria must an integer  $p$  satisfy in order for  $p$  to be a prime?

Answer: First,  $p$  must be greater than 1, and second,  $p$  must have no positive divisors  $d$  with  $1 < d < p$ .

2. What does the Fundamental Theorem of Arithmetic say? Give both the existence and uniqueness statements.

Answer: Every integer  $n > 1$  can be expressed as a product of primes, and this expression is unique, up to ordering of the factors.