Taking the universe of discourse to be the set of positive integers $\{1, 2, \ldots\}$ and using the triadic predicate letter "P" to express the relation $\boxed{3}$ is the product of $\boxed{1}$ and $\boxed{2}$ and the dyadic predicate letter "R" to express the relation $\boxed{1}$ is less than $\boxed{2}$, express the following statements in quantificational notation. (The boxed numerals indicate the order of argument places to the predicate letters.) You may need to use the symbol for identity in your paraphrases.

1. (20 points) x is divisible by y.

2. (20 points) $x = 2$.

3. (20 points) x is a prime number. (Recall that the primes are $2, 3, 5, 7, 11, \ldots$.)

4. (20 points) x is a perfect square.

5. (20 points) x is a power of three. (Recall that the powers of three are $1, 3, 9, 27, 81, \ldots$.)