Prime numbers

The **natural** numbers are the numbers 1, 2, 3, ...
A natural number is **prime** if it has exactly two natural number factors, 1 and itself.

Fundamental Theorem of Arithmetic. (Euclid ~300 B.C.E., Gauss 1801)
Every natural number greater than 1 can be expressed uniquely as a product of prime numbers.

True or false?

1. A computer can determine quickly whether a large number is prime.
2. A computer can quickly factor a large number into a product of primes.
3. There are an infinite number of primes.
4. There is a formula for how many primes are less than any number *n*.
5. There are an infinite number of primes that are one less than a power of two.
6. There are an infinite number of primes that are one greater than a perfect square.
7. There are an infinite number of pairs of primes that differ by exactly 2.
8. Every even number greater than 2 is the sum of two (not necessarily different) primes.