

4 The phrase finding a needle in a haystack relates to this since the combination of possible numbers for say a 10 qubit system are pretty large. However, in Grover's algorithm the given oracle will be able to instantly pull out the desired number.

5. Euclid's algorithm - give it two numbers & it will get the greatest common denominator.

Deriving a value for period p - Since the final result of Shor's algorithm is a sine wave we will need to derive a value for the period since its constant in the algorithm and contains the answer.

Quantum Fourier Transform - Transforms analog to digital. You will plug your sine wave & it will output the period.

6. One of the first issues with the classical approach is traditional matrix multiplication ends with you toggling between states & never moving forward.

This can be avoided by applying complex numbers & using unitary matrices, & modulus squared. These three tools in combination is what allows our state to move forward.