Pseudocode

```
sumOfProperDivisors = 0;

for( every number starting at 1 to 1000 )
{
  for(current number being checked until we reach 1)
  {
    divide current number by divisor
    if( remainder of division == 0)
      add this divisor to sumOfProperDivisors
  }

  //current number is a perfect number
  if(sumOfProperDivisors == currentNumber)
  {
    Print This perfect number with all its divisors
    print square root using sqrt function
    print square root using Babylonian method
      have an initial guess
      calculate x n+1
      loop this calculation until accuracy

    number of terms (iterations) it took to reach twelve decimal-place accuracy.
  }
}
```

1. Begin with an arbitrary positive starting value x_0 (the closer to the actual square root of S, the better).
2. Let x_{n+1} be the average of x_n and $\frac{S}{x_n}$ (using the arithmetic mean to approximate the geometric mean).
3. Repeat step 2 until the desired accuracy is achieved.

Source:

https://en.wikipedia.org/wiki/Methods_of_computing_square_roots#Babylonian_method