Problem 1
Use a factor tree to find the prime factorization for 9240.
Use your prime factorization to determine the number of factors for 9240.

Problem 2
Use the method of dividing by primes to find the prime factorization of 16380.

Problem 3
Find the prime factorization of $2^3 \cdot 3^2$.

Problem 4
Find the number of factors for the number $8^4 \cdot 6^3 \cdot 26^2$.

Problem 5
Find the smallest positive integer divisible by each natural number less than or equal to 14.
Problem 6

Is it always true that for $a, b, n \in \mathbb{W}$, if $a \mid n$ and $b \mid n$, then $ab \mid n^2$? Either prove the statement or give a counterexample.

Problem 7

Find the largest five-digit number that has exactly three factors.

Problem 8

To determine if 979 is prime, what is the smallest set of divisors you must test? Is 979 prime?