Divisibility II

The Fundamental Theorem of Arithmetic.

Problem 1. Is $2^9 \times 3$ divisible by 2?

Problem 2. Is $2^9 \times 3$ divisible by 5?

Problem 3. Is $2^9 \times 3$ divisible by 8?

Problem 4. Is $2^9 \times 3$ divisible by 6?

Problem 5. Is $2^9 \times 3$ divisible by 12?

Problem 6. Is $2^9 \times 3$ divisible by 24?

Problem 7. Is $2^9 \times 3$ divisible by 18?

Problem 8. List all the divisors of $2^2 \times 3 \ (= 12)$?

Problem 9. List all the divisors of $2^3 \times 3^2$ $(= 72)$?

Problem 10. List all the divisors of $2^9 \times 3$ $(= 1536)$?

Problem 11. The number A is not divisible by 3. Is it possible that the number $2 \times A$ is divisible by 3?

Problem 12. The number A is even. Is it true that the number $3 \times A$ is divisible by 6?

Problem 13. The number $5 \times A$ is divisible by 3. Is it true that the number A is divisible by 3?

Problem 14. The number $15 \times A$ is divisible by 6. Is it true that the number A is divisible by 6?

Problem 15. Let $A = 2^3 \times 3^{10} \times 7^2$ and $B = 2^5 \times 3 \times 11$. What is the greatest common factor in A and B?