Divisibility II

Making use of divisibility rules.

Problem 1. Figure out whether the following numbers are divisible by 2, 3, 5, 7 or 11.
Circle the appropriate divisors.

85785 :   2   3   5   7   11

24794 :   2   3   5   7   11

80625 :   2   3   5   7   11

57233 :   2   3   5   7   11

69286 :   2   3   5   7   11

Problem 2. List all the prime numbers less than 150. (A prime number is a positive integer
that has only two positive divisors, 1 and itself. Note that one is not a prime number.)

The Fundamental Theorem of Arithmetic.

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

Problem 4. Is $2^9 \times 3$ divisible by 5?

Problem 5. Is $2^9 \times 3$ divisible by 8?

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

Problem 7. Is $2^9 \times 3$ divisible by 12?

Problem 8. Is $2^9 \times 3$ divisible by 24?

Problem 9. List all the divisors of $2^2 \times 3$ $(= 12)$?

Problem 10. List all the divisors of $2^3 \times 3^2$ $(= 72)$?

Problem 11. List all the divisors of $2^9 \times 3$ $(= 1536)$?

Problem 12. The number A is not divisible by 3. Is it possible that the number $2 \times A$ is divisible by 3?

Problem 13. The number A is even. Is it true that the number $3 \times A$ is divisible by 6?

Problem 14. The number $5 \times A$ is divisible by 3. Is it true that the number A is divisible by 3?

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