Midterm 2

time: 60 minutes

- 1. Find orders of all elements of the group \mathbb{Z}_{18}^* .
- 2. Find a formula for the arithmetic function f such that $\sum_{d|n} f(d) = 1$ if n is odd and 0 if n is even.
- 3. Solve the congruence $x^{15} \equiv 2(mod17)$.
- 4. Compute $(\frac{600}{131})$.
- 5. Check that $1 \cdot 2 \cdot 3 \cdot \ldots \cdot (p-1) \equiv -1 \pmod{p}$, where p is a prime number.

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