7. If $A, B, C$ are sets and $A \times C = B \times C$, then $A = B$.
   Counterexample: Let $A, B$ be non-empty non-equal sets; $A = \{a\}, B = \{b\}$ for example. Let $C = \phi$. Then $A \times C = \phi = B \times C$, but $A \neq B$.
   The statement is false.

11. If $a, b \in \mathbb{N}$, then $a + b < ab$.
   Counterexample: Let $a = b = 1$. Then $a + b = 2$, while $ab = 1$. Therefore $a + b > ab$. The statement is false.

15. Every odd integer is the sum of three odd integers.
   Proof: Let $x$ be odd. Then $-(x)$ is also odd, and $x = x + (-x) + x$, the sum of three odd integers.

21. There exist prime numbers $p$ and $q$ such that $p - q = 97$.
   We will prove this statement is false by contradiction.
   Suppose $p, q$ are prime and $p - q = 97$, which is also prime.
   If $q = 2$, the only odd prime, then $p = 2 + 97 = 99$, which is not prime. Therefore $q > 2$.
   The remaining primes are all odd, which forces $p = q + 97$ to be even, contradicting the fact that $p$ is prime.
   We conclude that there do not exist prime numbers $p, q$ such that $p - q = 97$.

25. For all $a, b, c \in \mathbb{Z}$, if $a | bc$, then $a | b$ or $a | c$.
   This statement is false.
   Counterexample: Let $a = 6, b = 2, c = 3$. Now, $bc = 6$ and therefore $a | bc$. However 6 divides neither 2 nor 3.

29. If $x, y \in \mathbb{R}$ and $|x + y| = |x - y|$, then $y = 0$.
   This statement is false.
   Counterexample: Let $x = 0, y = 1$, for which $|x - y| = 1$ and $|x + y| = 1$, although $y \neq 0$. 