# Divisibility and Prime Numbers

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Elementary Number Theory

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**Problem 1.** Calculate gcd(37,2015) and gcd(1024, 10000)

Blah, blah, blah. Here is an example of the `align` environment:

$$\begin{aligned}
\sum_{i=1}^{k+1} i &= \left(\sum_{i=1}^{k} i\right) + (k+1) \\
&= \frac{k(k+1)}{2} + k + 1 && \text{(by inductive hypothesis)} \\
&= \frac{k(k+1) + 2(k+1)}{2} \\
&= \frac{(k+1)(k+2)}{2} \\
&= \frac{(k+1)((k+1)+1)}{2}.
\end{aligned}$$

**Theorem x.yz.** Let $n \in \mathbb{Z}$. Then yada yada.

*Proof.* Blah, blah, blah. I'm so smart. □