

# The Euler $\phi$ -function

Recall from Section ??, ??

**Definition** (Euler  $\phi$ -function). Let  $n$  be a positive integer. The *Euler  $\phi$ -function*  $\phi(n)$  is

$$\phi(n) = \#\{a \in \mathbb{Z} : a > 0 \text{ and } (a, n) = 1\}.$$

This section will explore the  $\phi$ -function in more depth.