



# MODULAR ARITHMETIC

## Why

We want to count in circles.<sup>1</sup>

## Definition

Let  $n \in \mathbf{Z}$  with  $n > 1$  and take  $a, b \in \mathbf{Z}$ . The integers  $a$  and  $b$  are *congruent modulo  $n$*  (or with respect to the *modulus  $n$* ) if  $n$  is a divisor of their difference.<sup>2</sup>

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<sup>1</sup>Future editions will expand.

<sup>2</sup>Future editions will expand, and may need a sheet on congruence relations.



