Presentations

Wed, 2/3: 1.2 + 1.6 - William
1.7 - Destiny

Fri, 2/5: 1.9 + 1.10 - Michael
1.11 - Ashe

Mon, 2/8: 1.12 - Andie
1.14 - Nathan

Wed, 2/10: 1.17 - Jacob
1.20 - Morgan

Daily Homework

Posted on website

Submit either on Canvas or by email
↳ must be in .pdf
CamScanner, Scannable, etc.

↳ Due by beginning of class (11 AM)

Recall: If d and n are integers, then we say

d divides n, written $d \mid n$, if there is an integer k such that $n = d \cdot k$

Def: If a, b, and n are integers, and $n > 0$, then we say a and b are congruent modulo n if $n \mid (a-b)$. We denote this by writing

$$a \equiv b \pmod{n}.$$

Ex: $6 \equiv 9 \pmod{3}$ because $3 \mid (6-9)$ → $6-9 = -3 = 3 \cdot (-1)$

Ex: If a and b are any integers, then $1 \mid (a-b)$, because $a - b = 1 \cdot (a-b)$ so $a \equiv b \pmod{1}$.

Ex: The case where $n = 2$.

Then $a \equiv b \pmod 2$ means $2 \mid (a-b)$

i.e. $(a-b) = 2 \cdot k$ for an integer k.

$\rightarrow a = b + 2k$

$\Rightarrow$ if b is even, then so is a

$\rightarrow b = a - 2k$

$\Rightarrow$ if a is even, then so is b

Similarly, if one is odd, then so must be the other.

Conclude: $a \equiv b \pmod 2$ means either

a and b are both even

or

a and b are both odd.