

Ejercicios Aritmética Modular

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Calcule los mínimos residuos de los siguientes enteros mod 6

1. $7 + 3 \bmod 6$

$$10 \cong 4 \bmod 6$$

2. $23 - 24 \bmod 6$

$$\begin{aligned} 23 &\cong 5 \bmod 6 \\ 24 &\cong 0 \bmod 6 \\ 23 - 24 &\cong 5 - 0 \bmod 6 \\ 23 - 24 &\cong 5 \bmod 6 \end{aligned}$$

3. $601 - 6001 \bmod 6$

$$\begin{aligned} 601 &\cong 1 \bmod 6 \\ 6001 &\cong 1 \bmod 6 \\ 601 - 6001 &\cong 1 - 1 \bmod 6 \\ 601 - 6001 &\cong 0 \bmod 6 \end{aligned}$$

4. $7 - 3 \bmod 6$

$$4 \cong 4 \bmod 6$$

5. $67 + 68 \bmod 6$

$$\begin{aligned} 67 &\cong 1 \bmod 6 \\ 68 &\cong 2 \bmod 6 \\ 67 + 68 &\cong 1 + 2 \bmod 6 \\ 67 + 68 &\cong 3 \bmod 6 \end{aligned}$$

6. $-3 - 19 \bmod 6$

$$\begin{aligned} 3 &\cong 3 \bmod 6 \\ 19 &\cong 1 \bmod 6 \\ -3 - 19 &\cong -3 - 1 \bmod 6 \\ -3 - 19 &\cong -4 \bmod 6 \\ -4 &= (-1 * 6) + 2 \\ -3 - 19 &\cong 2 \bmod 6 \end{aligned}$$