

(or better) $-17 \bmod 23$?
Here's how to do it:

$$-17 \bmod 23 = 23 - (17 \bmod 23) = 23 - 17 = 6$$

$$\text{Answer} = -17 \bmod 23 = 6$$

• Multiplicative Inverse of -13 upon modulo 23?

To find the multiplicative inverse of -13 modulo 23, we want to find an integer x such that:

$$(-13) \cdot x \equiv 1 \bmod 23$$

step 1: convert $-13 \bmod 23$ to a positive equivalent

$$-13 \bmod 23 = 10 \quad (\text{since } 23 - 13 = 10)$$

$$10 \cdot x \equiv 1 \bmod 23$$

step 2: find the inverse of 10 modulo 23

$$\bullet 10 \cdot 1 = 10$$

$$\bullet 10 \cdot 2 = 20$$

$$\bullet 10 \cdot 7 = 70 \equiv 1 \bmod 23$$

The multiplicative inverse of -13 modulo 101 is 7 .