Name: Khadija Arretin Meem

JO: JT21059

围 - 17 mod 23:

$$(23)-17(-1)$$
 (-23)

$$-17 = (-1 \times 23) + 6$$

ES boom F = 08 = EXOC . E = X Multiplicative Inverse of -13 mod 23:

The multiplicative inverse of a number a mod m is a number x such that!

 $ax \equiv 1 \mod m$

In our case, we are looking for a number 2. such that!

 $-13x = 1 \mod 23$

To simplify, we first convert -13 into a positive equivalent modulo 23:

-13 mod 23 z -13+23 = 10

50, the equivale equation becomes:

 $10x = 1 \mod 23$ Now, we find the Integer X such that 20x = 1 mod 23 J7 x=1, 10x1=10 # 1, modx 23 If $\lambda = 2$, $10 \times 2 = 20 \neq 1 \mod 23$. If x=3, $20x3 = 30 = 7 \mod 23$ If = 4, 10×4 = 40 = 17 mod 23 We found it: 10.7= 70=1 mod 23

that is a rumber x such that:

since -13 = 10 mod 23 and 10 mod 23 = 7 we conclude.

The multiplicative invoise of -13 mod 23, is 7.

13x = 1 mod 23

To simplify we find the convert - is inthe a Positive equivalent modulo 23:

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