OI = Assignment - 3 born El--17 mod 230=20 notbours oft .00 10 x = 1 mod 29 23)-17 (-1 No. 14-23 (-2801-m) ant brist sty , wol -17=(-1×23)十6 10x1 = 10x1 = 10 = 10 = 13 = 10 = 13 Multiplicative inverise of -13 and 23? The multiplicative inverse of a number a mod m is a number x such that: ax = 1 mod x m In our case, we are looking fore a number 2 such that: EL-13x = 1 mod 23 to simplify we firest convert -13 into a positive équivalent module 23.

-13 mod 23 = -13 +23 = 10 so, the equation become 3000 231-17/02 10 x = 1 mod 23 Now, we find the integer x such $-17 = (-1 \times 23) + 6$ 10 x = 1 mod 23 Es bom Flori. if x=1 10x1 = 10 \ = 1 mod 23 if x = 2 10x2 = 20 / 1 mod 23 oredocule if 12=3 10x3 = 30 = 7 mod 23 if x=4 and 10x4 = 40 = 17 mad 23 if x = 5 10 x 50 = 50 = A mod 23 1 1/2 = 60 = 10x6 = 60 = 14 mod 23 if x=7 10x7 = 70 = 1 mod 23 we found it : 10x7 = 70 = 1 mod 23 Since -13 = 10 mod 23 and 10 mod 23=9 The multiplicative inverse of -13 mod 23