$\{$
$\}$
n
$n \equiv$
$0, 1$
??
$\{$
$\}$
n
$\sigma(m)) =$
$\sigma(-1-$
$m)$
$\sigma(m)) =$
$-\sigma(m)$
$-\sigma(m)+$
$2\sigma(0) \equiv$
$-\sigma(m)$
$\sigma(m)) =$
$I\circ$
$R(\sigma(m)) =$
$I\left(R(\sigma(m))\right) =$
$-\sigma(-1-$
$m)$
$klein.jpeg*$
$FelixKlein$
2
$\{$
$\}$
$grupo$
de
$Klein$
$\equiv$
$Z/(2)\times$
$Z/(2)$

$$\#Spec = \frac{1}{|Z/(2)\times Z/(2)|}\sum_{\sigma\in S_n}|Stab(\sigma)| = \frac{1}{4}\sum_{\sigma\in S_n}|Stab(\sigma)|$$

$\sigma \in$
S_n
$\sum|Stab(\sigma)|$
$\#\sigma_i$
i

$$\sum_{\sigma\in S_n}|Stab(\sigma)| = 1\cdot(\#\sigma_1)+2\cdot(\#\sigma_2)+4\cdot(\#\sigma_4)$$

$\sigma(m) \equiv$
$\sigma(m) \iff$
$0 \equiv$
$2\sigma(m) \iff$
$n \equiv$
$2\sigma(m) \iff$
$\frac{n}{2} \equiv$
$\sigma(m)$
$\sigma(m)$
$m \in$
$Z/(n)$
$\#\sigma_4 =$
0
$\#\sigma_2$
γ
$\gamma+$
$\sigma(m) =$
$R(m) =$
$\sigma(-1-$
$m)$
$(-1-$
$m)$
$\gamma+$
$\sigma(-1-$
$m) =$
$\sigma(m)$
$\gamma =$
$\sigma(-1-$
$m)-$
$\sigma(m) =$
$\sigma(m)-$
$\sigma(-1-$
$m)$
$2\sigma(m) \equiv$
$2\sigma(-1-$
$m)2\sigma(m)-$
$2\sigma(-1-$
$m) \equiv$
0
$2\sigma(m)-$

γ

$$\sigma(m) = RI(\sigma(m))+\gamma = -\sigma(-1-m)+\gamma$$

$$\gamma = \sigma(m)+\sigma(-1-m)$$

n
$\sigma(\frac{n-1}{2})$
$\sigma(-1-\frac{n-1}{2})$
$\gamma = 2\cdot\sigma(\frac{n-1}{2})$
$\gamma = 2\cdot 0 = 0$
γ
$\sigma(m) = -\sigma(-1-m)$
$n-1$
$\sigma(0)$
$n-3$
$\sigma(1)$
$\frac{n-3}{2}$
n

$$(n-1)(n-3)\dots(n-2\cdot\frac{n-5}{2}-1)(n-2\cdot\frac{n-3}{2}-1) =$$

$$= (n-1)(n-3)\dots(n-(n-5)-1)(n-(n-3)-1) =$$

$$= (n-1)(n-3)\dots 4\cdot 2 = (n-1)!!$$

n
$\sigma(m) \neq \sigma(-1-m) \forall m \in Z/(n)$
$\gamma = 2k$
$2k \leq n$
m
$\sigma(m) = k$
$k+$
$\sigma(-1-m) = 2k\sigma(-1-m) = k =$
$\sigma(m)$
γ
$\sigma(0) = 0$
$\frac{n}{2}$
$\sigma(-1-m)$
γ
$\sigma(1)$
$(n-2)$
γ
$\sigma(2)$
$(n-4)$
?
n

$$\frac{n}{2}\cdot(n-2)(n-4)\dots(n-2\cdot\frac{n-4}{2})(n-2\cdot\frac{n-2}{2}) =$$

$$= \frac{n}{2}\cdot(n-2)(n-4)\dots(n-(n-4))(n-(n-2)) =$$

$$= \frac{n}{2}\cdot(n-2)(n-4)\dots 4\cdot 2 = \frac{n}{2}\cdot(n-2)!!$$