































8













But

$$\frac{p-1}{\sum_{k=1}^{2} k a = a \sum_{k=1}^{\frac{p-1}{2}} k = \frac{a}{2} (\frac{p-1}{2}) (\frac{p-1}{2} + 1)$$

$$= \frac{a(p^{2} - 1)}{8}$$
Because $\{|a|_{p}, \dots, |\frac{p-1}{2}a|_{p}\}$ is $\{1, \dots, \frac{p-1}{2}\}$,

$$\sum_{k=1}^{\frac{p-1}{2}} |(ka)_{p}| = \sum_{k=1}^{\frac{p-1}{2}} k$$

$$= \frac{1}{2} (\frac{p-1}{2}) (\frac{p-1}{2} + 1) = \frac{(p^{2} - 1)}{8}$$

































































