



$$\mathbb{Z}m = \frac{mh}{h \in \mathbb{Z}} \sqsubset \mathbb{Z}$$

$$xm + ym = \underline{x + y}m$$

$$-xm = \underline{-x}m$$

$$0 = 0m$$

per  $\mathbb{Z}m = m$

$$\mathbb{Z}n \sqsubset \mathbb{Z}m \Leftrightarrow m \prec n$$

$$\Rightarrow : n \in \mathbb{Z}n \sqsubset \mathbb{Z}m \Rightarrow n = km \Rightarrow m \prec n$$

$$\Leftarrow : n = km \Rightarrow xn = x\underline{km} = \underline{xk}m \in \mathbb{Z}m \Rightarrow \mathbb{Z}n \sqsubset \mathbb{Z}m$$

$$\begin{cases}
 \mathbb{Z}m \sqcup \mathbb{Z}n & = \mathbb{Z}\underline{m \vee n} \\
 \mathbb{Z}m \sqcap \mathbb{Z}n & = \mathbb{Z}\underline{m \wedge n}
 \end{cases}$$

$$\mathbb{Z}n | \mathbb{Z} = \{ \mathbb{Z}n \sqsubset \mathbb{1} \sqsubset \mathbb{Z} \} = \frac{\mathbb{Z}m}{m \prec n}$$

$$\mathbb{Z}n | \mathbb{Z}m = \frac{\mathbb{Z}l}{m \prec l \prec n} \succ \frac{\mathbb{Z}n}{m} | \mathbb{Z}$$