

HOMEWORK #2

Problem 1. Consider the partition

$$\mathcal{P} = \{\{1, 3, 7, 8, 9, 10\}, \{2, 4\}, \{5\}, \{6\}\}.$$

Let \sim be the associated equivalence relation.

- (a) What is $\bar{7}$?
- (b) Is it true that $7 \sim 5$?
- (c) List 4 elements of A so that $a \not\sim b$ for any distinct a and b in your list.

Problem 2. The following table describes an equivalence relation. Find the associated set of ordered pairs that is this relation.

\sim	1	2	3	4	5	6
1	*	*	*			
2	*	*	*			
3	*	*	*			
4				*		*
5					*	
6				*		*

x

Problem 3. There are 5 partitions on the set $\{0, 1, 2\}$. Find them all.

Problem 4. Given this Hasse diagram, find the associated partial order, giving your answer as a table.



