

Math 2001: PHW3

1. From the book do:

- 1.2: 2(g)
- 2.1: 6, 10, 12
- 2.3: 4, 12
- 2.5: 2, 6, 10

2. What is the number of subsets of the set $\{\{1, 2, 3\}, \{1\}, \{1, 4\}, \{1, 4, 5, \{1, 2\}\}, \{1, 2, 3, 4\}\}$?

3. What is the number of subsets of $\{a, b, c, d, e, f\}$ which all contain c ? Generalize by determining how many subsets of $\{1, 2, \dots, n\}$ contain 1.

4. Consider the following incomplete truth table. Fill in the column headings so that this is a valid truth table, using only some combination of P , Q , R , \wedge , and \sim .

P	Q	R					
T	T	T	T	F	F	T	T
T	T	F	F	F	F	T	T
T	F	T	F	F	F	T	T
T	F	F	F	F	T	F	T
F	T	T	F	F	F	T	T
F	T	F	F	F	F	T	T
F	F	T	F	F	F	T	F
F	F	F	F	T	F	T	T