Ch. 6 continued, Ch. 9.2

Example: $U = \{F, 7, 4, 1, q, 5\}$

$A = \{4, 5, q\}$

$B = \{7, q\}$

Find: $B \times B = \{(7,7), (7,q), (q,7), (q,q)\}$

$A - B = \{4, 5\}$

$|\overline{B - A}| = |\{7\}| = |U| - |\{7\}| = 6 - 1 = 5$

$\mathcal{P}(B) = \{\{\}, \{7\}, \{q\}, \{7, q\}\}$

$|\mathcal{P}(B) \times A| = 2^2 \cdot 3 = 12$

Example: How many ways can you order a pizza? Given: there are

Problem (1)
- 3 kinds of crust (regular, thin, cheese-stuffed)
- 2 sizes (large, small)
- 4 toppings (but you can only pick 1, and you must pick 1).

Problem (2)
- Same, but: cheese-stuffed crust only available in large size.

We'll make a possibility (decision) tree. for each.