

1. Ex. 1.1/1.2 # 4, 8, 16, 20, 22, 34, 36, 38.
2. Ex. 1.3 # 8(h), 12, 18, 23(c), 26(c), 30, 32.
3. Give a combinatorial argument for each of the following identities:
 - (a) $\binom{n}{k} \cdot \binom{k}{1} = \binom{n}{1} \cdot \binom{n-1}{k-1}$
 - (b) $\binom{2n}{2} = 2 \cdot \binom{n}{2} + n^2$