

10. Let $S = \{a, b, c, d\}$. Let $T = \{b, c, x, y, z\}$. Let $Z = \{w \subseteq T : w \subseteq S\}$. List all elements of Z .

11. Let $S = \{a, b, c, d\}$. Let $T = \{b, c, x, y, z\}$, and let $Z' = \{w \subseteq T : w \cap S = \emptyset\}$. List all elements of Z' .

12. Prove that for all sets A, B, C , and D ,

$$(A \cap B) - C \subseteq (A \cup D) \cap B.$$

13. Prove that for all integer values of $n \geq 0$, $\sum_{i=0}^n i = n(n+1)/2$.