

I)  $\{y, z\} \in \mathcal{P}(C) = \text{true}$

True because  $\mathcal{P}(C)$  has all subsets of  $C$ , which includes  $\{y, z\}$

II)  $\{\{8\}\} \subseteq \mathcal{P}(D) = \text{true}$

True because  $\mathcal{P}(D)$  has all subsets of  $D$ . Thus  $\{\{8\}\}$  is a subset of  $\mathcal{P}(D)$

III)  $\{9, 11\} \in D \times D = \text{false}$

False, because  $D \times D$  only contains pairs.  $\{9, 11\}$  is not a pair.

IV)  $\emptyset \subseteq C \times C = \text{true}$

True, because the empty set is always a subset of any other set.

V)  $(z, 11) \in C \times D = \text{true}$

True, because  $(z, 11)$  is a cartesian product of  $C \times D$ . This is the last cartesian product in the multiplication chart.