Reading Quiz Section 6.2

1. Which of the following are true statements. Select all that apply.

    (a) $[0,1) \in \mathcal{P}(\mathbb{R})$

    (b) $7 \in \mathcal{P}(\mathbb{N})$

    (c) $\{(3,5),(2,9)\} \subseteq \mathcal{P}(\mathbb{N} \times \mathbb{N})$

    (d) $\{4, \pi\} \in \mathcal{P}(\mathbb{R})$

2. Let $A = \{(1,2), 3, (4, \{5\})\}$. What is $|\mathcal{P}(A)|$?

    (a) 3

    (b) 8

    (c) 16

    (d) 32

Practice Problems Section 6.2

1. Let $A = \{\emptyset, 1, \{a\}\}$. List the elements of $\mathcal{P}(A)$ and compute its cardinality. Answer True or False for the following:

    (a) $\emptyset \in A$

    (b) $\emptyset \subseteq A$

    (c) $\emptyset \in \mathcal{P}(A)$

    (d) $\emptyset \subseteq \mathcal{P}(A)$

    (e) $\{\{a\}\} \subseteq \mathcal{P}(A)$

    (f) $\{\{\emptyset, 1\}, \{\emptyset\}, \emptyset\} \subseteq \mathcal{P}(A)$

    (g) $A \in \mathcal{P}(A)$

    (h) $A \subseteq \mathcal{P}(A)$

    Video Solution

2. Prove that $A \subseteq B$ if and only if $\mathcal{P}(A) \subseteq \mathcal{P}(B)$.

    Video Solution