

(d) $A \setminus B$

$A \setminus B$ contains every elements that are in A but not in B .

$$\begin{aligned} A \setminus B &= \{1, 2, 5, 6\} \setminus \{2, 5, 7\} = A \\ &= \{1, 6\} \end{aligned}$$

$$\begin{aligned} A \setminus C &= \{1, 2, 5, 6\} \setminus \{1, 3, 5, 7, 9\} \\ &= \{2, 6\} \end{aligned}$$

(e) $A \oplus B$ (symmetric difference of A and B)

$$\begin{aligned} A \oplus B &= \{1, 2, 5, 6\} \oplus \{2, 5, 7\} \\ &= \{1, 6, 7\} \end{aligned}$$

$$\begin{aligned} A \oplus C &= \{1, 2, 5, 6\} \oplus \{1, 3, 5, 7, 9\} \\ &= \{2, 3, 6, 7, 9\} \end{aligned}$$

$$(f) (A \cup C) = \{1, 2, 3, 5, 6, 7, 9\}$$

$$(A \cup C) \setminus B = \{1, 3, 6, 9\}$$

$$(B \oplus C) \setminus A$$

$$(B \oplus C) = \{1, 2, 3, 9\}$$

$$(B \oplus C) \setminus A = \{3, 9\}$$