

Sets

Exercise - 2

Ans: No: 1

- ① $M \cap N \rightarrow \{5, 7\}$.
- ② $M \cup N \rightarrow \{1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 13\}$.
- ③ $n(N) \rightarrow 5$.
- ④ $n(M \cup N) \rightarrow 11$.
- ⑤ $5 \in M \rightarrow \text{True}$.
- ⑥ $7 \in (M \cup N) \rightarrow \text{True}$.
- ⑦ $N \subset M \rightarrow \text{False}$.
- ⑧ $\{5, 6, 7\} \subset M \rightarrow \text{True}$.

Ans: No: 2

- ① $A \cap B \rightarrow \{2, 3, 5, 7\}$.
- ② $A \cup B \rightarrow \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$.
- ③ $n(A \cap B) \rightarrow 4$.

$$\textcircled{d} \{1, 4\} \cap A \rightarrow \emptyset.$$

$$\textcircled{e} A \in B \rightarrow \text{True}.$$

$$\textcircled{f} A \subset B \rightarrow \text{True}.$$

$$\textcircled{g} \emptyset \subset B \rightarrow \text{True}.$$

$$\textcircled{h} 3 \in (A \cap B) \rightarrow \text{True}.$$

Ans: No: 3

$$\textcircled{a} X \cap Y \rightarrow \{2, 4, 6, 8, 10\}.$$

$$\textcircled{b} Y \cap Z \rightarrow \{\cancel{2, 4, 6, 8, 10, 12, 14}, \{16, 18, 20\}\}.$$

$$\textcircled{c} X \cap Z \rightarrow \emptyset$$

$$\textcircled{h} 20 \in X \rightarrow \text{false}$$

$$\textcircled{d} n(X \cup Y) \rightarrow 15.$$

$$\textcircled{i} n(X \cap Y) = 5 \rightarrow \text{true}$$

$$\textcircled{e} n(Z) \rightarrow 11.$$

$$\textcircled{j} \{15, 20, 25\} \subset Z$$

$\rightarrow \text{True}.$

$$\textcircled{f} n(X \cup Z) \rightarrow 21.$$

$$\textcircled{g} 5 \in Y \rightarrow \text{True}.$$

Ans: No 4

a) $D \cup E \rightarrow \{1, 3, 4, 5\}$

b) $D \cap F \Rightarrow \{5\}$

c) $n(E \cap F) \rightarrow 1$

d) $(D \cup E) \cap F \rightarrow \{1, 5\}$

e) $(D \cup E) \cup F \rightarrow \{1, 5, 10\}$

f) $n(D \cup F) \rightarrow 4$

g) $DC(E \cup F) \rightarrow \text{True}$

h) $3 \in (E \cap F) \rightarrow \text{False}$

i) $4 \notin (D \cap E) \rightarrow \text{True}$

Ans: No: 5

$$a) n(E) \rightarrow 4$$

$$b) n(F) \rightarrow 3$$

$$c) E \cap F \rightarrow \{b, d\}$$

$$d) E \cup F \rightarrow \{a, b, c, d, e\}$$

$$e) n(E \cup F) \rightarrow \{7, 9\}$$

$$f) n(E \cap F) \rightarrow \{1, 2, 4\}$$

Ans: No: 6

$$a) n(M \cap N) \rightarrow 2$$

$$b) n(N) \rightarrow 4$$

$$c) M \cup N \rightarrow \{1, 2, 4, 6, 7, 8, 9\}$$

$$d) M' \cap N \rightarrow \{7, 9\}$$

$$e) N' \cap M \rightarrow \{1, 2, 4\}$$

$$f) (M \cap N)' \rightarrow \{1, 2, 4, 7, 9\}$$

$$g) M \cup N' \rightarrow \{1, 2, 4, 6, 8\}$$

$$h) N \cup M' \rightarrow \{6, 7, 8, 9\}$$

$$i) M' \cup N' \rightarrow \{1, 2, 4, 7, 9\}$$