

EXERCISES

Find all the subsets of each of the following sets.

$$A = \{5, 7\}$$

$$B = \{a, b, c\}$$

$$C = \{x, y, w, x, z, z\}$$

Sp: Dig a letter in the word 'prowl'

$$X \cap A = \{5, 7\}$$

Subsets of set $A = \{\}, \{5\}, \{7\}, \{5, 7\}$

$$B = \{a, b, c\}$$

Subsets of set $B = \{\}, \{a\}, \{b\}, \{c\}, \{a, b\}, \{a, c\}, \{b, c\}$

$$C = \{a, b, c\}$$

$$C = \{x : x \in W, x < 2\}$$

$$= \{0, 1, 2\}$$

Subsets of set $C = \{\}, \{0\}, \{1\}, \{2\}, \{0, 1\}, \{0, 2\}, \{1, 2\}$

$$\{0, 1, 2\}$$

Sp: Dig a letter in the word 'prowl'

$$\{P, O, W\}$$

Subsets of the given set = $\{\}, \{P\}, \{O\}, \{W\}, \{P, O\}, \{P, W\}, \{O, W\}, \{P, O, W\}$

- (ii) $n(C)$
- (iii) number of its subsets
- (iv) number of its proper subsets.

note: (i) If a set has n elements, the number of its subsets = 2^n

(ii) If a set has n elements the number of its proper subsets = $2^n - 1$

Ans - $X = \{c, o, l, e, n\}$

(i) $n(C) = 5$

(ii) number of its subsets: $2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$

(iv) number of its proper subsets = $2^5 - 1 = 32 - 1 = 31$

Q3 -> If $T = \{x : x\}$ is a letter in the word 'TEETH' Find all its subsets.

Ans -> $T = \{t, e, h\}$

subsets of set $T = \emptyset, \{t\}, \{e\}, \{h\}, \{t, e\}, \{t, h\}, \{e, h\}, \{t, e, h\}$