

**▶ Exercise 1a**

1. Pick out the well-defined sets from the following:

- (i)  $A = \{\text{test cricket captains of Pakistan}\}$
- (ii)  $B = \{\text{tasty food items}\}$
- (iii)  $C = \{\text{prime ministers of Pakistan}\}$
- (iv)  $D = \{\text{naughty students in your class}\}$
- (v)  $E = \{\text{mathematics teachers in your school}\}$
- (vi)  $F = \{\text{large numbers}\}$
- (vii)  $G = \{\text{capital of the province you live in}\}$
- (viii)  $H = \{\text{games you like playing}\}$

**Symbols used in sets**

	Symbol	Meaning	Example
1.	=	is equal to	$\{1, 2, 5\} = \{5, 1, 2\}$ (sets having exactly the same members are equal sets)
2.	≠	is not equal to	$\{1, 2, 5\} \neq \{1, 2, 4\}$
3.	∈	is a member of	$3 \in \{1, 2, 3\}$
4.	∉	is not a member of	$3 \notin \{0, 1, 2\}$
5.	∅	is the empty set or the null set	{ }
6.	⊂	is a proper subset of	$A = \{1, 2, 3\}$ $B = \{1, 2\}$ $B \subset A$ (every member of B is a member of A, but every member of A is not a member of B)
7.	⊄	is not a proper subset of	$A = \{1, 2, 3\}$ $B = \{0, 4\}$ $B \not\subset A$
8.	⊆	is a subset of	$A = \{1, 2, 3\}$ $B = \{1, 2, 3\}$ $A \subseteq B$

**NOTE**

Every set is a subset of itself. The empty set is a subset of every set.