

Name:

Date:

Subject:

Grade:

Instructions: Read and answer each question in the space provided.

A). State, whether the given set is **infinite** or **finite**:

- (i) $\{3, 5, 7, \dots\}$
- (ii) $\{1, 2, 3, 4\}$
- (iii) $\{\dots, -3, -2, -1, 0, 1, 2\}$
- (iv) $\{20, 30, 40, 50, \dots, 200\}$
- (v) {Multiples of 5}
- (vi) {Fractions between 1 and 2}
- (vii) {Numbers of people in India}

B). Write down the elements of:

(i) set A; if set A contains the squares of the first five whole numbers.

$$= \{ \quad \}$$

(ii) set C; if set C contains the natural numbers upto 10.

$$= \{ \quad \}$$

(iv) set D; if set D contains whole numbers between 20 and 40; all divisible by 4.

$$= \{ \quad \}$$

(v) set E; if set E contains even natural numbers between 13 and 23.

$$= \{ \quad \}$$

(vi) set F; if set F contains natural numbers between 15 and 40; each divisible by 3 or by 4.

$$= \{ \quad \}$$

(x) set J; if set J contains months having 30 days.

$$= \{ \quad \}$$

(xi) set K; if set K contains the last five months of the year.

$$= \{ \quad \}$$

C) . State whether the following are true or false:

(i) If $A = \{5, 6, 7\}$ and $B = \{6, 8, 10, 12\}$; then $A \cup B = \{5, 6, 7, 8, 10, 12\}$.

(ii) If $P = \{a, b, c\}$ and $Q = \{b, c, d\}$; then $P \cap Q = \{b, c\}$.

(iii) Union of two sets is the set of elements which are common to both sets.

(iv) Two disjoint sets have at least one element in common.

(v) Two overlapping sets have all the elements in common.

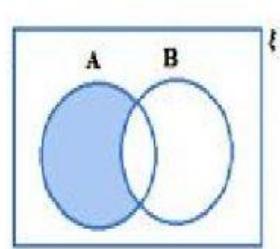
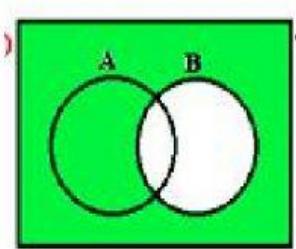
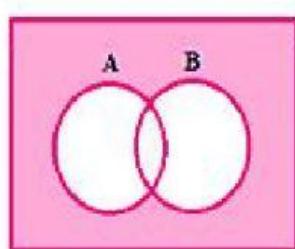
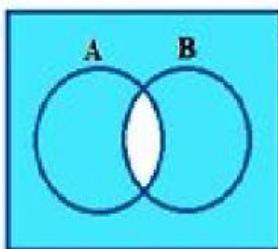
D). What set is represented by the non shaded portion in the following Venn diagrams?

$A \cup B$

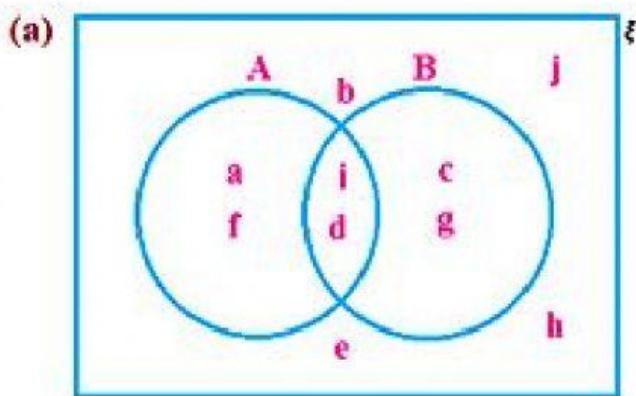
$A \cap B$

B only

everything but A only



E). Read the Venn diagram and answer the following.



- (i) $A = \{ \}$
- (ii) $B = \{ \}$
- (iii) $A \cup B = \{ \}$
- (iv) $A \cap B = \{ \}$
- (v) $U = \{ \}$