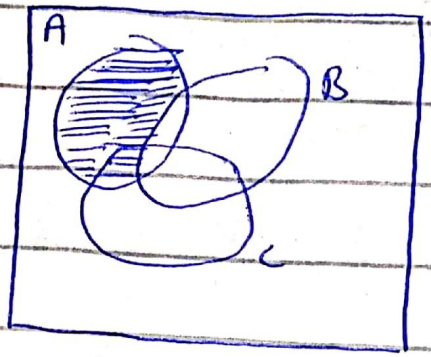
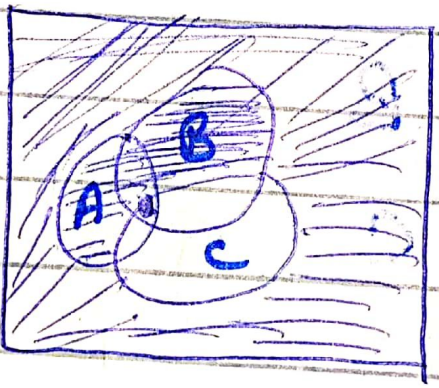
Solution 1)

Solution (1)

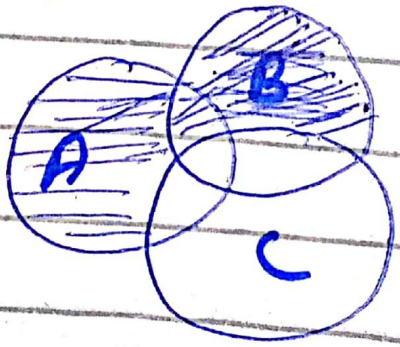
(i) $A-(B-C)$



(ii) $(A \cap B) \cup C'$

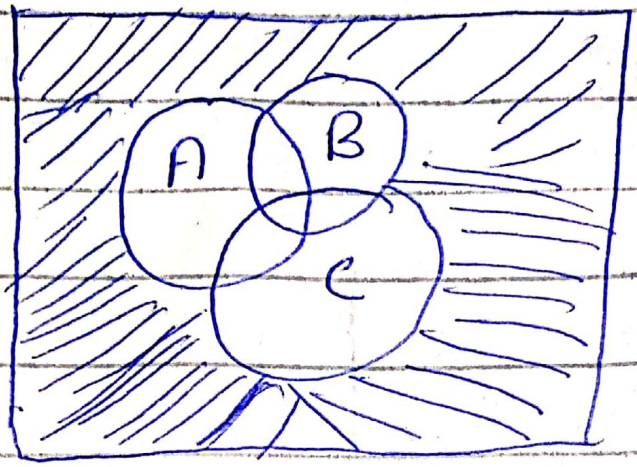


(iii) $(A \cup B) \cap C'$

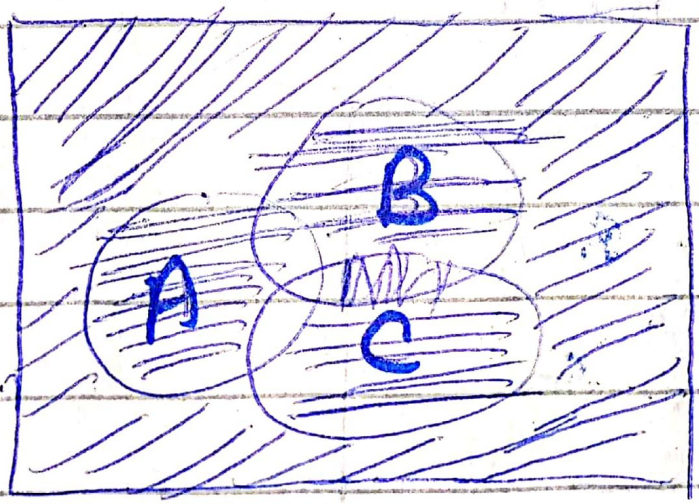


(iv)

$(A \cup B \cup C)'$



(v) $(A \cap B \cap C)'$



Solution # 2

Given

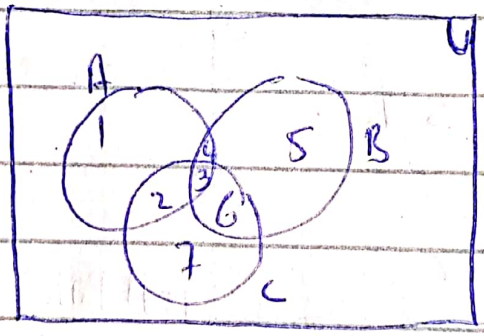
$= U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

$A_2 \{1, 2, 3, 4\}$

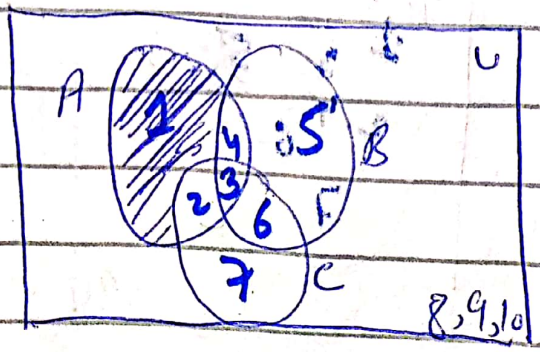
$B = \{3, 4, 5, 6\}$

$C = \{2, 3, 6, 7\}$

Solution

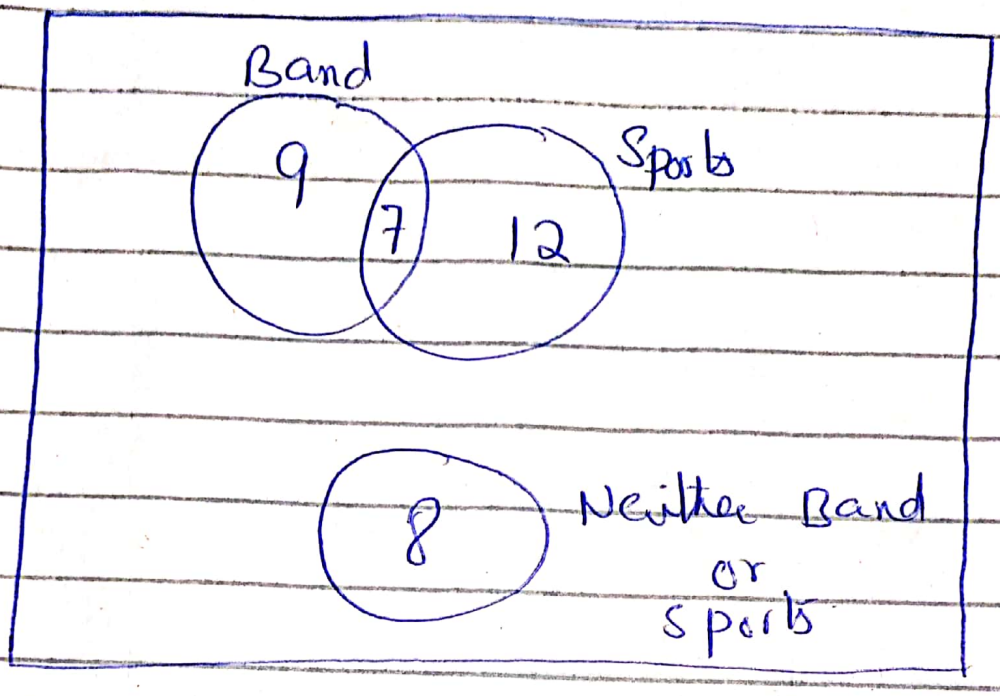


a) A - B



$A - B = \{1, 2\}$

Q# 3



Student only in Band = 9

Student in Sports only = 12

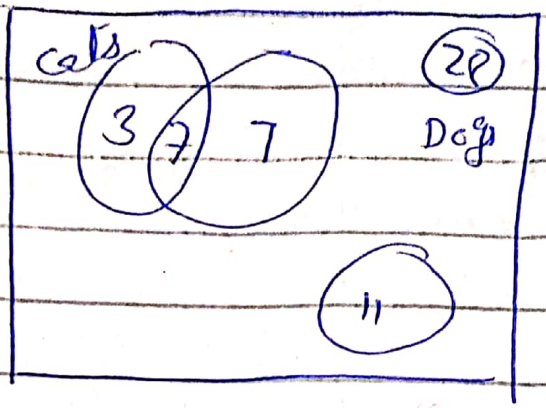
Students in Bands and Sports = 7

Student who are neither in Band nor Sport are = 8

Total students = 9+12+7+8

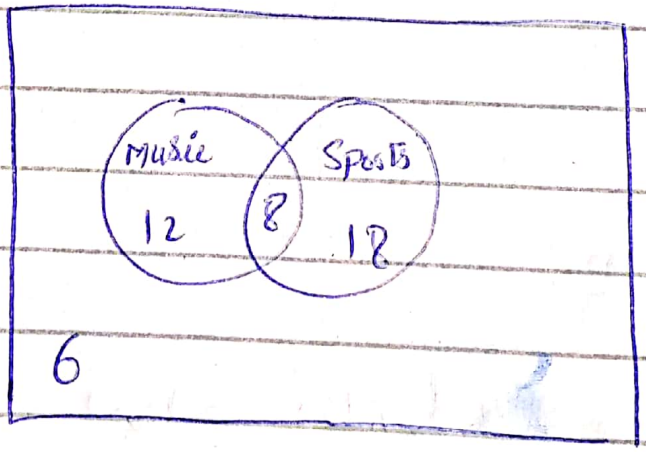
= 136

Q 4



Q 6

Venn Diagram can be used in this case

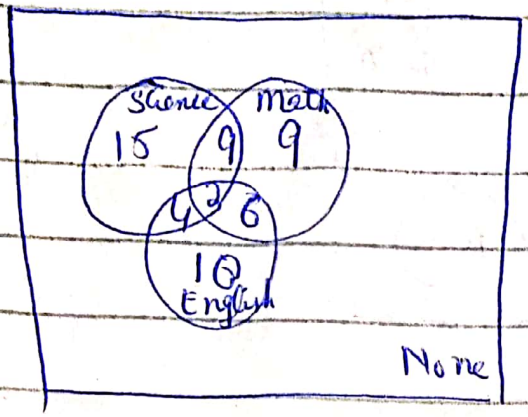


Total number of students

$= 6 + 12 + 8 + 18$

$= 44$ Students Ans

Q# 7



Total = 15+9+10+9+2+4+6+None

50 = 55

None = -5

So this is an impossible combination

(8)

Given:

Total students = 150

Number of student who takes classes of

Math → 53 (M)

Chem → 88 (C)

English = 58 (E)

Common Students

= 6 (who takes all classes)

To find :

How many students takes exactly two classes.

- Suppose

x (who takes exactly two classes)

$n = 0$ (who take neither class)

$n = 0$

Formula.

- [Total students = M + C + E − x − 2x (Common All Students classes) + (None classes takes)]

Total = M + C + E − x − 2 (All 3 subjects)
+ n

(i) 150 = 53 + 88 + 58 − x − 2x(6) + 0

150 = 199 − x − 12

x = 187 − 150

$\boxed{x = 37}$ Ans.

Exactly 2 classes taken By (x = 37) students