$A^3 = A \times A \times A$

1. $\bar{a} \cdot A = \{0,1,3,5,7\} \times \{0,1,3,5,7\}$

(10) $A^2 = \{\langle 0,0\rangle, \langle 0,1\rangle, \langle 0,3\rangle$

$\{0,1,9,25,49\}$ $\langle 0,5\rangle, \langle 0,7\rangle, \langle 1,0\rangle,$

$\langle 1,1\rangle, \langle 1,3\rangle, \langle 1,5\rangle, \langle 1,7\rangle,$

(5) $\langle 3,0\rangle, \langle 3,1\rangle, \langle 3,5\rangle, \langle 3,7\rangle$

$\langle 5,0\rangle, \langle 5,1\rangle, \langle 5,3\rangle, \langle 5,7\rangle, (5,5)$

$\langle 7,0\rangle, \langle 7,1\rangle, \langle 7,3\rangle, \langle 7,5\rangle\}$

$\ldots \langle 7,7\rangle\}$

$\therefore A^2 = A \times A$

$|A^2| = |A| \times |A|$

$= 5 \times 5$

$= 25$

$A^2 = A \times A$

b. $A = \{1, 2, a, b\} \times \{1, 2, a, b\}$

$A^2 = \{(1,1)(1,2), (1,a), (1,b)$

(5) $(2,1), (2,2), (2,a), (2,b)$

$(a,1), (a,2), (a,a), (a,b)$

$(b,1), (b,2), (b,a) (b,b)\}$

$A = \{x, y, z\}$ $B = \{1, 2, 3\}$

$A \times B = \{(x,1), (x,2), (x,3),$

$(y,1), (y,2), (y,3)$

$(z,1), (z,2), (z,3)\}$

2. $A = \{0, 1, 3, 5, 7\}$ $B = \{1, 2, a, b\}$

10

a. $A \cup B$ (2,5)

b. $A \cap B$ (2,5)

(2,5) c. $A - B = \{0, 3, 5, 7, \}$ }

(2,5) d. $B - A = \{2, a, b\}$

a. $A \cup B$

$\{0, 1, 2, 3, 5, 7, a, b\}$

b. $A \cap B$

$\{1\}$

3. $A = \{a, b, c\}$ $B = \{x, y\}$ $C = \{0, 1\}$.

(10) a. $A \times B \times C$

$= \{(a,x,0), (a,x,1), (a,y,0),$
$(a,y,1), (b,x,0), (b,x,1),$
$(b,y,0), (b,y,1), (c,x,0),$
$(c,x,1), (c,y,0), (c,y,1)\}$

(5)

b. $C \times A \times B$

$= \{(0,a,x), (0,a,y), (0,b,x), (0,b,y),$
$(0,c,x), (0,c,y), (1,a,x), (1,a,y),$
$(1,b,x), (1,b,y), (1,c,x), (1,c,y)\}$

(5)

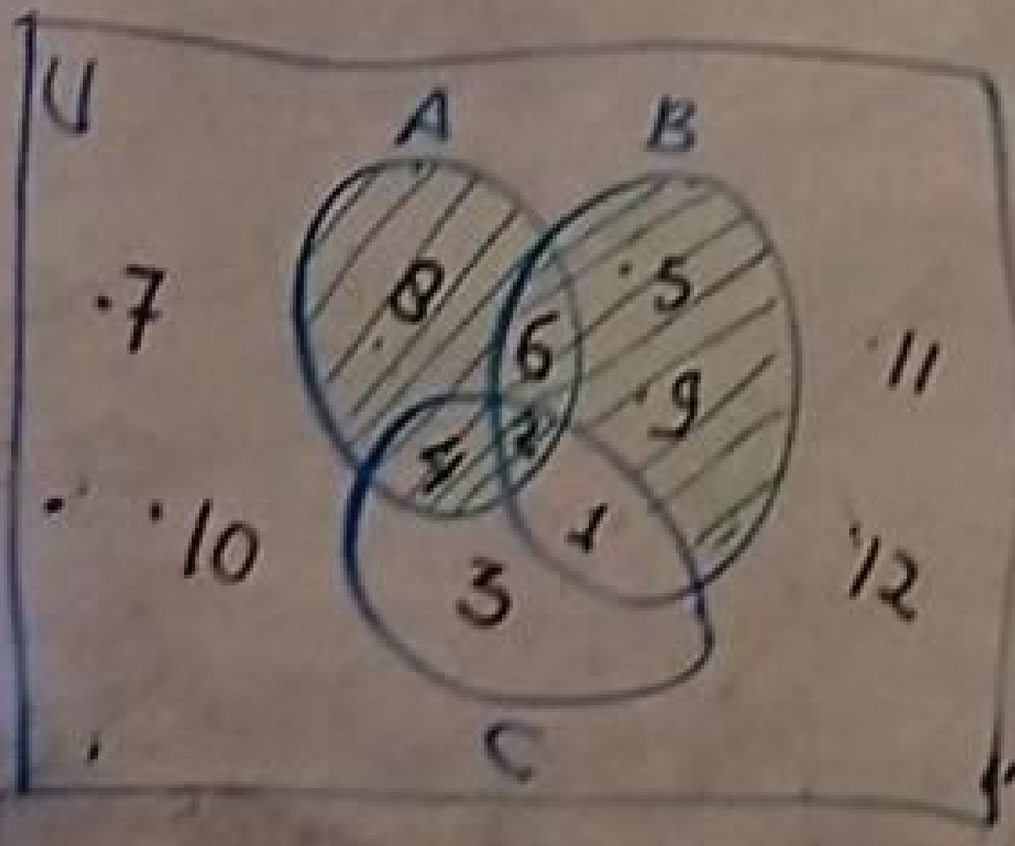
4. $U = \{1, 2, 3, \ldots, 12\}$ $A = \{2, 4, 6, 8\}$ $B = \{4, 2, 5, 6, 9\}$

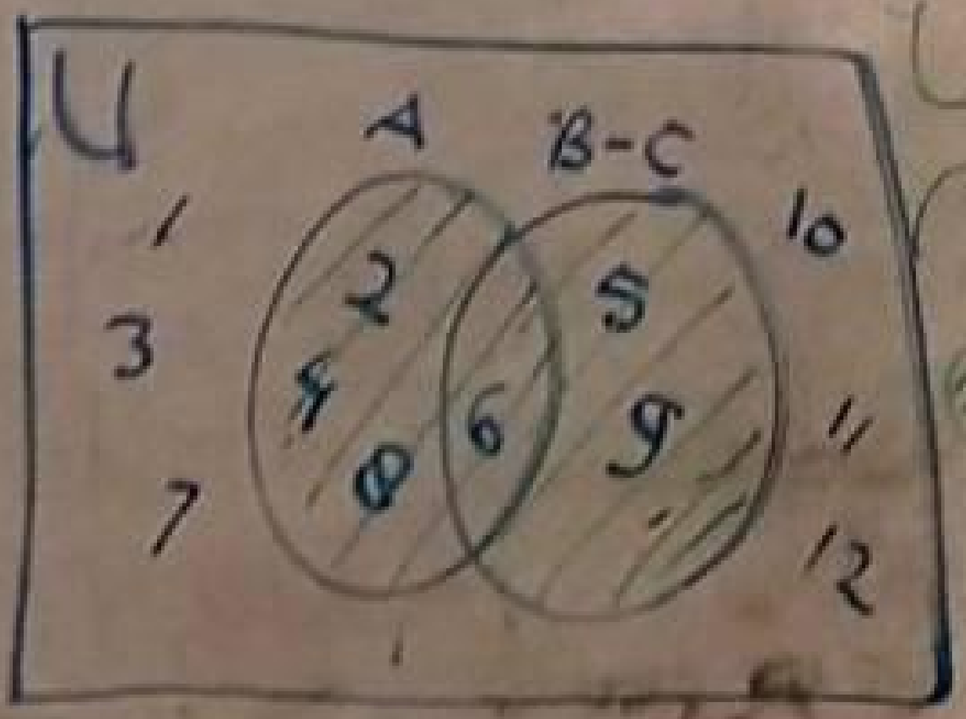
$C = \{1, 2, 3, 4\}$

a. $A \cup (B - C)$

(5) $= \{2, 4, 6, 8\} \cup \{5, 6, 9\}$

$= \{2, 4, 5, 6, 8, 9\}$ (L15)





4. $U = \{1, 2, 3, \ldots, 12\}$ $A = \{3, 4, 6, 8\}$ $B = \{1, 2, 5, 6, 9\}$

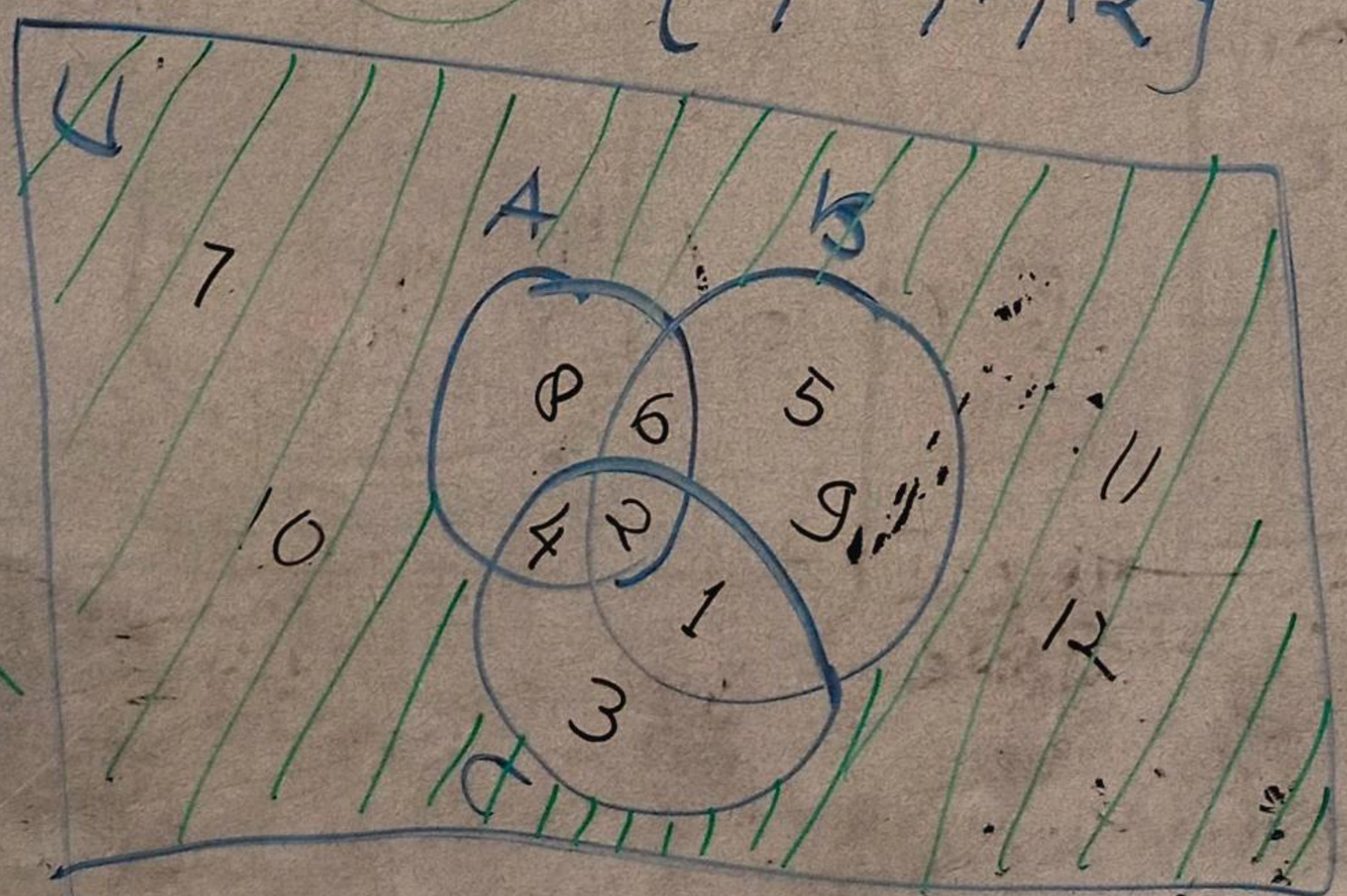
$C = \{1, 2, 3, 4\}$

b. $\bar{A} \cap \bar{B} \cap \bar{C} = \{1, 3, 5, 7, 9, 10, 11, 12\} \cap$

(5) $\{3, 4, 7, 8, 10, 11, 12\} \cap$

$\{5, 6, 7, 8, 9, 10, 11, 12\}$

$2,5 = \{7, 10, 11, 12\}$



2,5

15

5. $A=\{2,4,6,8\}$ ... $B=\{4,8,16,32,40,64\}$

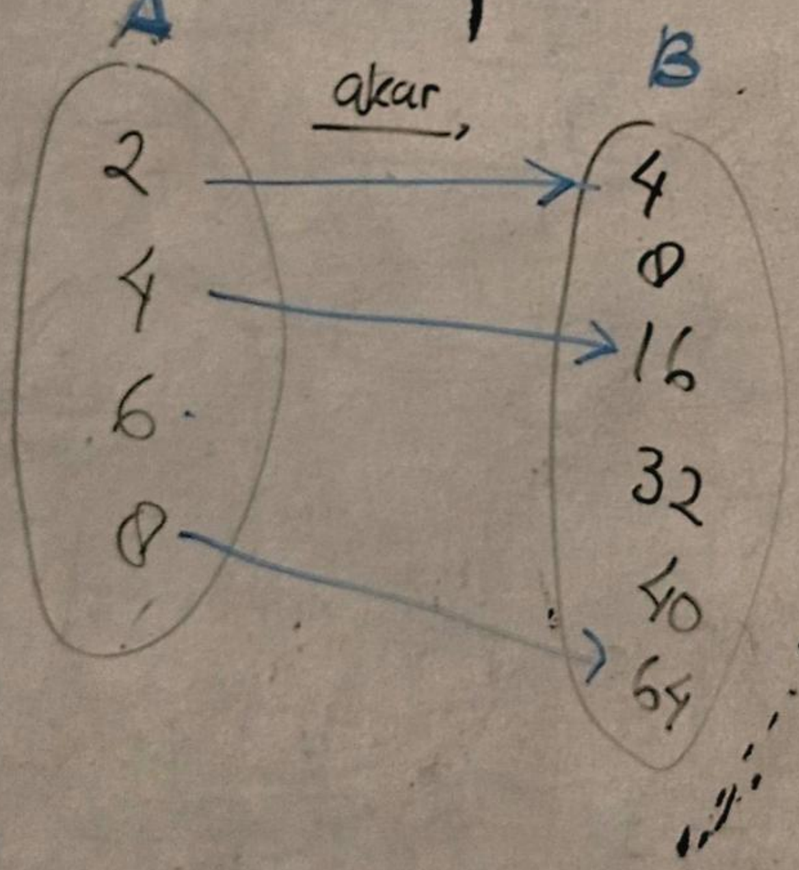
(20) aR_b a/ A akar dari B

a. $R=\{(2,4),(4,16),(8,64)\}$

(6)

b.

(7)



(7)

$R=$

	4	8	16	32	40	64
2	1	0	0	0	0	0
4	0	0	1	0	0	0
6	0	0	0	0	0	0
8	0	0	0	0	0	1

$R_1 \cap R_2 = \{(4,g), (6,d), (8,f)\}$

$R_1 \cup R_2 = \{(3,f), (3,g), (4,d), (4,e), (4,f), (4,g), (6,d), (6,f), (6,e), (8,d), (8,e), (8,f), (8,g)\}$

d. $R_2 - R_1 = \{(3,g), (4,d), (4,f), (6,e), (8,e)\}$

(5)

C. $R_1 - R_2 = \{(3,f), (4,e), (6,f), (8,d), (8,g)\}$

(5)

7. $A = \{3,4,6,8\}$ $B = \{d,e,f,g\}$

(20)

$$R_1 = \begin{array}{c} \\ 3 \\ 4 \\ 6 \\ 8 \end{array} \begin{array}{c} \begin{array}{cccc} d & e & f & g \end{array} \\ \begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 1 \\ 1 & 0 & 1 & 0 \\ 1 & 0 & 1 & 1 \end{bmatrix} \end{array}$$

$$R_2 = \begin{array}{c} \\ 3 \\ 4 \\ 6 \\ 8 \end{array} \begin{array}{c} \begin{array}{cccc} d & e & f & g \end{array} \\ \begin{bmatrix} 0 & 0 & 0 & 1 \\ 1 & 0 & 1 & 1 \\ 1 & 1 & 0 & 0 \\ 0 & 1 & 1 & 0 \end{bmatrix} \end{array}$$

$R_1 = \{(3,f), (4,e), (4,g), (6,d), (6,f), (8,d), (8,f), (8,g)\}$

$R_2 = \{(3,g), (4,d), (4,f), (4,g), (6,d), (6,e), (8,e), (8,f)\}$

a. $R_1 \cap R_2$

b. $R_1 \cup R_2$

c. $R_1 - R_2$

d. $R_2 - R_1$