

# Penyelesaian Lengkap

## PRAKTIS 4

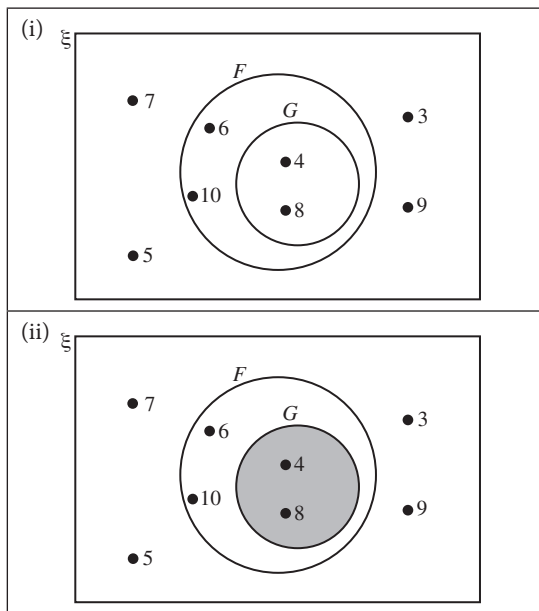
### Praktis Formatif

#### 4.1 Persilangan Set Intersection of Sets

- 1 (a) (i)  $\xi = \{3, 4, 5, 6, 7, 8, 9, 10\}$ ,  $F = \{4, 6, 8, 10\}$ ,  $G = \{4, 8\}$ ,  $F \cap G = \{4, 8\}$

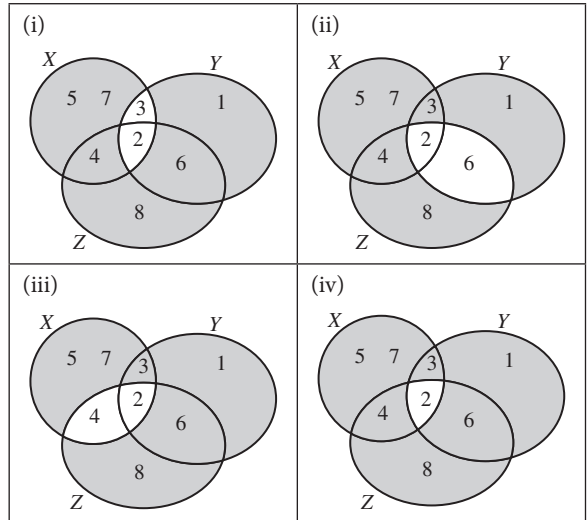
(ii)  $n(F \cap G) = 2$

(b)

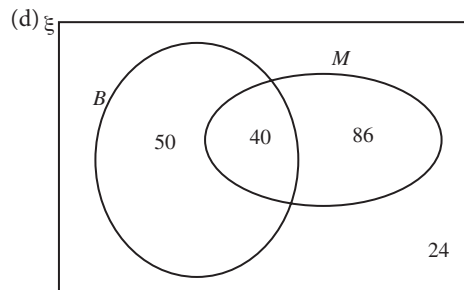


- 2 (a)  $\xi = \{1, 2, 3, 4, 5, 6, 7, 8\}$   
 $X = \{2, 3, 4, 5, 7\}$   
 $Y = \{1, 2, 3, 6\}$   
 $Z = \{2, 4, 6, 8\}$
- (i)  $(X \cap Y) = \{2, 3\}$   
 $(X \cap Y)' = \{1, 4, 5, 6, 7, 8\}$   
 $n(X \cap Y)' = 6$
- (ii)  $(Y \cap Z) = \{2, 6\}$   
 $(Y \cap Z)' = \{1, 3, 4, 5, 7, 8\}$   
 $n(Y \cap Z)' = 6$
- (iii)  $(X \cap Z) = \{2, 4\}$   
 $(X \cap Z)' = \{1, 3, 5, 6, 7, 8\}$   
 $n(X \cap Z)' = 6$
- (iv)  $(X \cap Y \cap Z) = \{2\}$   
 $(X \cap Y \cap Z)' = \{1, 3, 4, 5, 6, 7, 8\}$   
 $n(X \cap Y \cap Z)' = 7$

(b)



- 3 (a)  $\{a, e, g, r, m\}$  (c)  $\{a, p, i, e, g, r, m\}$   
 (b)  $\{e, g, p, i, a\}$  (d)  $\{a, p, i, e, g, r, m\}$
- 4 (a) Bilangan murid yang menghadiri kedua-dua kelas Biologi dan Matematik ialah:  
 Number of students who attended both Biology and Mathematics class is:  
 $20\% \times 200 = 40$
- (b) Bilangan murid yang menghadiri kelas Biologi:  
 Number of students who attended Biology class:  
 $45\% \times 200 = 90$
- (c) Bilangan murid yang tidak menghadiri kelas tuisyen untuk kedua-dua subjek tersebut:  
 Number of students who do not attend tuition classes for both subjects:  
 $12\% \times 200 = 24$   
 Bilangan murid yang menghadiri kelas Matematik sahaja:  
 Number of students who attended Mathematics class only:  
 $= 200 - 40 - 50 - 24$   
 $= 86$



5 (a)  $n(P \cap R)' = n(P \cap Q)$

$$3 + x = 3 + 2$$

$$x = 2$$

(b)  $n(\xi) = 2 + 3 + 2$

$$= 7$$

6 Katakan jumlah murid ialah  $x$  orang.

Let the total number of students be  $x$ .

(a)  $0.6x = 24$

$$x = 40$$

(b) Bilangan murid yang pandai bermain piano dan gitar

The number of students who can play piano and guitar

$$= 40 \times \frac{5}{100}$$

$$= 2$$

(c) Bilangan murid yang tidak pandai bermain piano dan gitar

The number of students who do not play piano and guitar

$$= 0.2 \times 40$$

$$= 8$$

Bilangan murid yang pandai bermain piano sahaja

The number of students who play piano only

$$= (0.6 - 0.05) \times 40$$

$$= 22$$

Bilangan murid yang pandai bermain gitar

The number of students who can play guitar

$$= 40 - 8 - 22$$

$$= 10$$

#### 4.2 Kesatuan Set

##### Union of Sets

1 (a) (i)  $A \cup B = \{3, 4, 5, 6, 7, 8, 10\}$

$$n(A \cup B) = 7$$

(ii)  $B \cup C = \{1, 3, 4, 5, 6, 7, 8\}$

$$n(B \cup C) = 7$$

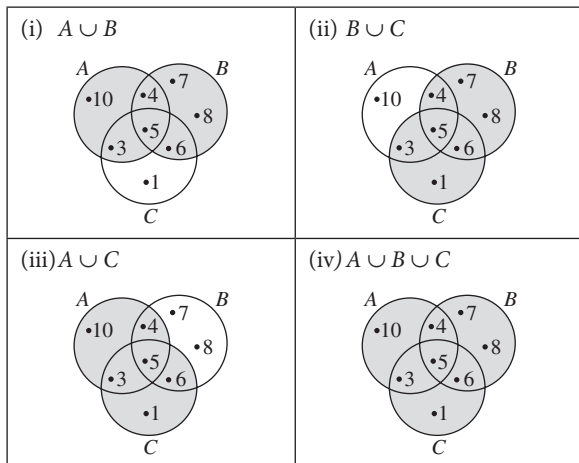
(iii)  $A \cup C = \{1, 3, 4, 5, 6, 10\}$

$$n(A \cup C) = 6$$

(iv)  $A \cup B \cup C = \{1, 3, 4, 5, 6, 7, 8, 10\}$

$$n(A \cup B \cup C) = 8$$

(b)



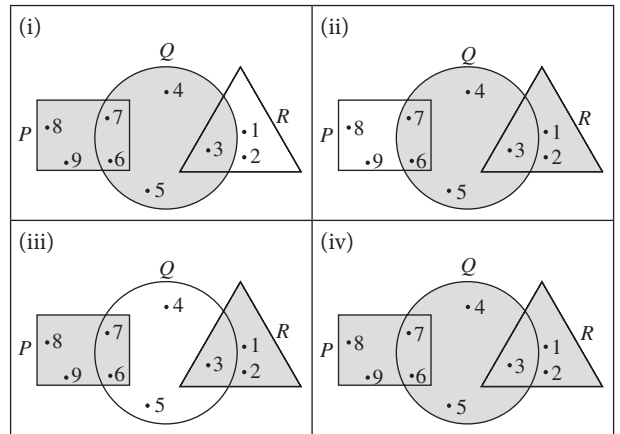
2 (a) (i)  $\{3, 4, 5, 6, 7, 8, 9\}$

(ii)  $\{1, 2, 3, 4, 5, 6, 7\}$

(iii)  $\{1, 2, 3, 6, 7, 8, 9\}$

(iv)  $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

(b)



3 (a)  $\xi = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

$$A = \{1, 2, 4, 8\}$$

$$B = \{1, 2, 3, 6\}$$

$$C = \{2, 4, 6, 8, 10\}$$

(i)  $A \cup B = \{1, 2, 3, 4, 6, 8\}$

$$(A \cup B)' = \{5, 7, 9, 10\}$$

$$n(A \cup B)' = 4$$

(ii)  $B \cup C = \{1, 2, 3, 4, 6, 8, 10\}$

$$(B \cup C)' = \{5, 7, 9\}$$

$$n(B \cup C)' = 3$$

(iii)  $A \cup C = \{1, 2, 4, 6, 8, 10\}$

$$(A \cup C)' = \{3, 5, 7, 9\}$$

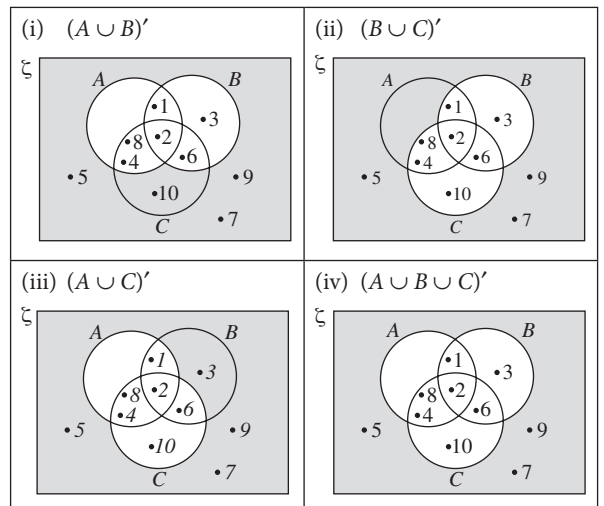
$$n(A \cup C)' = 4$$

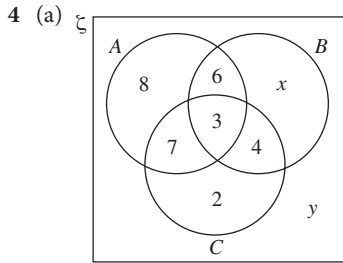
(iv)  $A \cup B \cup C = \{1, 2, 3, 4, 6, 8, 10\}$

$$(A \cup B \cup C)' = \{5, 7, 9\}$$

$$n(A \cup B \cup C)' = 3$$

(b)

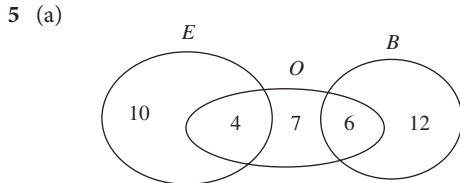




$$x = 18 - 6 - 3 - 4$$

$$x = 5$$

(b)  $y = 40 - 8 - 6 - 5 - 3 - 4 - 7 - 2$   
 $y = 5$



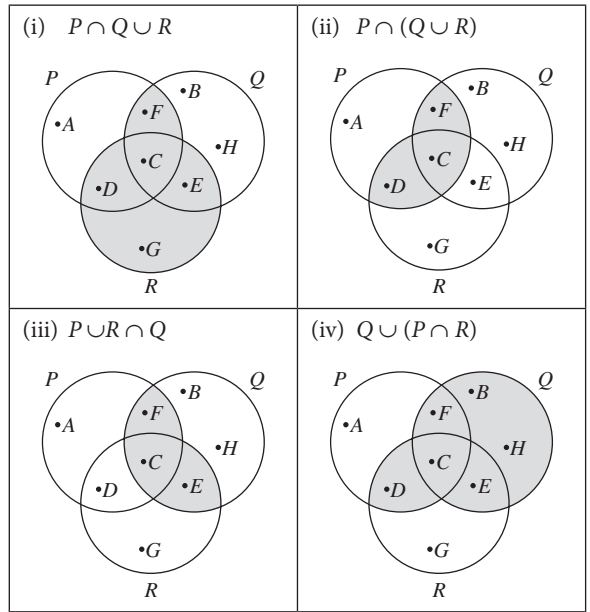
(b)  $10 + 4 + 7 + 6 + 12$   
 $= 39$  orang pekerja/staffs

6  $n(G \cup L') = 21 + 20 + 10$   
 $= 51$  orang murid/students

### 4.3 Gabungan Operasi Set Combined Operations on Sets

- 1 (a) (i)  $\{2, 4, 6, 8, 10\}$   
 (ii)  $\{2, 4, 8\}$   
 (iii)  $\{4, 8\}$   
 (b) (i)  $\{2, 4, 6, 8, 10\}$   
 (ii)  $\{4, 8\}$   
 (iii)  $\{2, 4, 8\}$   
 (c) (i) 5  
 (ii) 2  
 (iii) 3
- 2 (a) (i)  $P \cap Q = \{C, F\}$   
 $R = \{C, D, E, G\}$   
 $P \cap Q \cup R = \{C, D, E, F, G\}$   
 (ii)  $P = \{A, C, D, F\}$   
 $Q \cup R = \{B, C, D, E, F, G, H\}$   
 $P \cap (Q \cup R) = \{C, D, F\}$   
 (iii)  $P \cup R = \{A, C, D, E, F, G\}$   
 $Q = \{B, C, E, F, H\}$   
 $P \cup R \cap Q = \{C, E, F\}$   
 (iv)  $Q = \{B, C, E, F, H\}$   
 $P \cap R = \{C, D\}$   
 $Q \cup (P \cap R) = \{B, C, D, E, F, H\}$

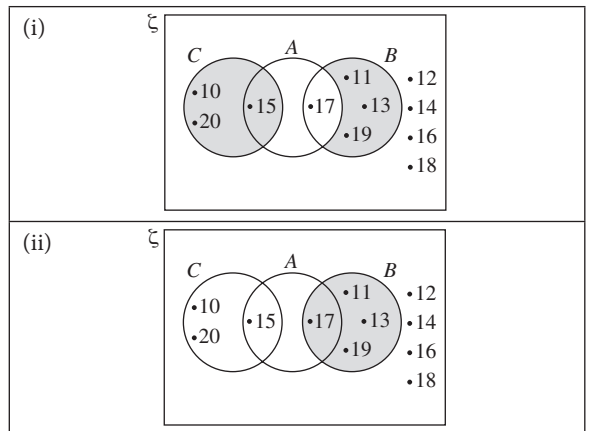
(b)

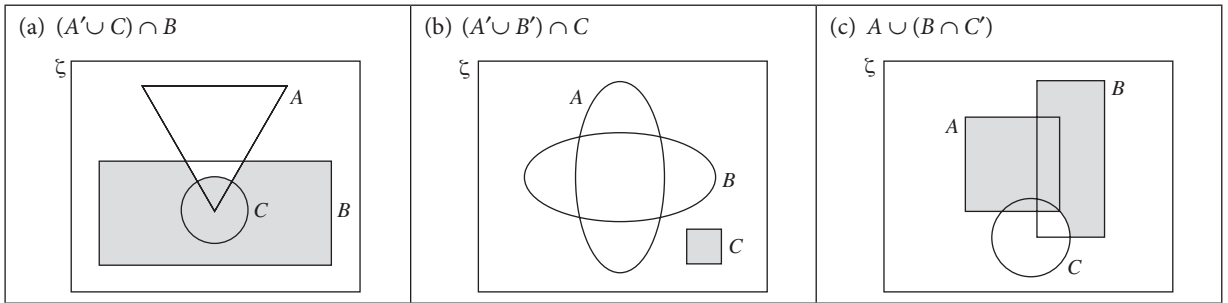


- 3 (a)  $(A \cap B) \cup C$   
 (b)  $B \cup (A \cap C)$

- 4 (a)  $\xi = \{10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20\}$   
 $A = \{15, 17\}$   
 $B = \{11, 13, 17, 19\}$   
 $C = \{10, 15, 20\}$   
 (i)  $A' = \{10, 11, 12, 13, 14, 16, 18, 19, 20\}$   
 $A' \cap B = \{11, 13, 19\}$   
 $(A' \cap B) \cup C = \{10, 11, 13, 15, 19, 20\}$   
 (ii)  $C' = \{11, 12, 13, 14, 16, 17, 18, 19\}$   
 $A \cup C' = \{11, 12, 13, 14, 15, 16, 17, 18, 19\}$   
 $B \cap (A \cup C') = \{11, 13, 17, 19\}$

(b)

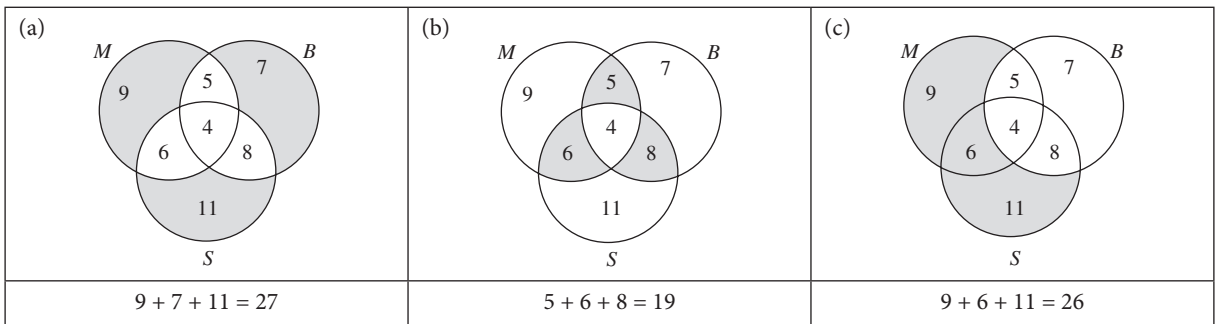




6 (a)  $(A \cup B)' \cup C$

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

- 7  $M = \{\text{murid yang menjadi ahli persatuan Matematik}\}$ ,  
 $B = \{\text{murid yang menjadi ahli persatuan Bahasa Inggeris}\}$  dan  
 $S = \{\text{murid yang menjadi ahli persatuan Sains}\}$ .  
 $M = \{\text{members of Mathematics society}\}$ ,  
 $B = \{\text{members of English language society}\}$  and  
 $S = \{\text{members of Science society}\}$ .

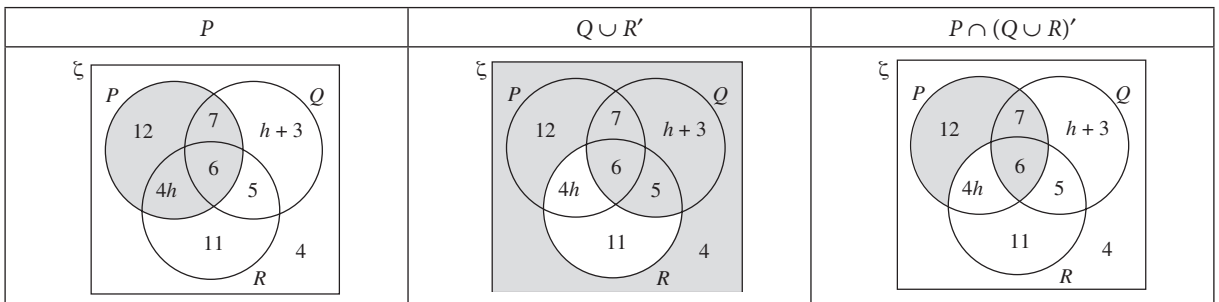


(d)  $50 - 9 - 5 - 7 - 4 - 6 - 8 - 11 = 0$   
 Tiada/No

(c)  $2 + 5 + 3 = 10$

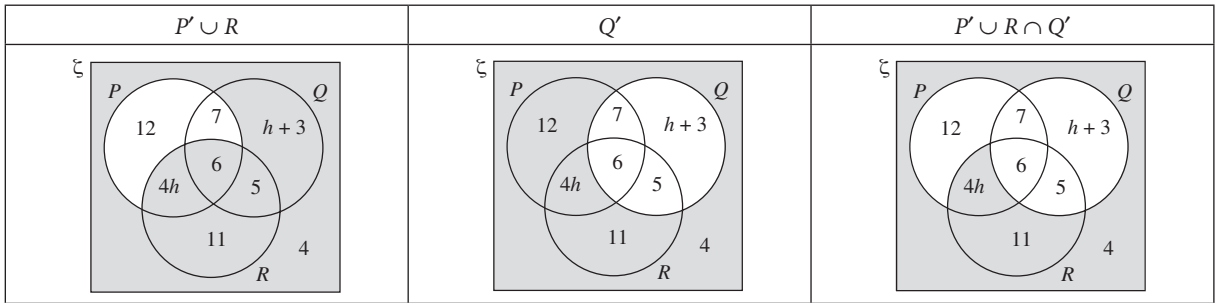
8 (a)  $4h + 6 = 7 + h + 3 + 6 + 5$   
 $3h = 15$   
 $h = 5$

(b)



$n(P \cap (Q \cup R)') = 12 + 7 + 6 = 25$

(c)



$$\begin{aligned}
 n(P' \cup R \cap Q') &= 4h + 11 + 4 \\
 &= 4(5) + 11 + 4 \\
 &= 35
 \end{aligned}$$

**Praktis Sumatif**

**Kertas 1**

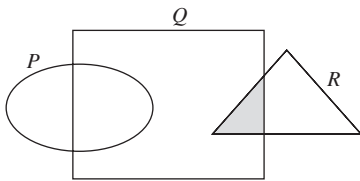
- 1 D    2 C    3 B    4 A    5 B  
6 D

**Kertas 2**

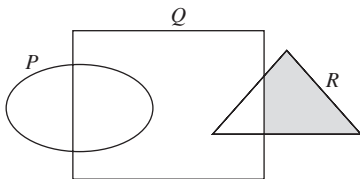
**Bahagian/Section A**

1.

(a)  $Q \cap R$



(b)  $R \cap (P \cup Q')$

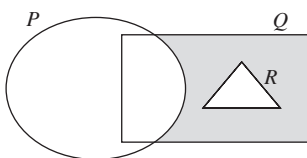


2

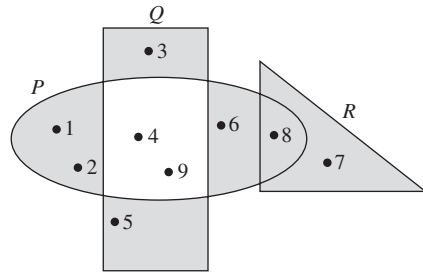
(a)  $Q \cap R$



(b)  $(P \cup R)' \cap Q$



- 3 (a) {4, 9}  
(b) {1, 2, 4, 6, 9}  
(c)



**Bahagian/Section B**

- 4 (a)  $2x + 3x + 6 + x + 4 = 28$   
 $6x = 18$   
 $x = 3$   
(b)  $2 + 5x = 2 + 5(3)$   
 $= 17$   
(c)  $2x + 6 = 2(3) + 6$   
 $= 12$   
(d)  $6 + x = 6 + 3$   
 $= 9$   
(e)  $2 + 2x + 3x = 2 + 5x$   
 $= 2 + 5(3)$   
 $= 17$   
(f) Set A dan/and set C

**Bahagian/Section C**

- 5 (a) Persamaan/Equation (1):  $x + y = 13$   
 $2x + y + x + 15 + 2 = 50$   
Persamaan/Equation (2):  $3x + y = 33$   
(2) - (1):  $2x = 20$   
 $x = 10$   
Daripada persamaan/From Equation (1):  
 $10 + y = 13$   
 $y = 3$   
(b)  $50 - 2 = 48$   
(c)  $2x + y + 15 = 2(10) + 3 + 15$   
 $= 38$   
(d)  $2x + 15 = 2(10) + 15$   
 $= 35$   
(e) 3  
(f)  $T \subset K$