

# Jawapan

## Praktis 4

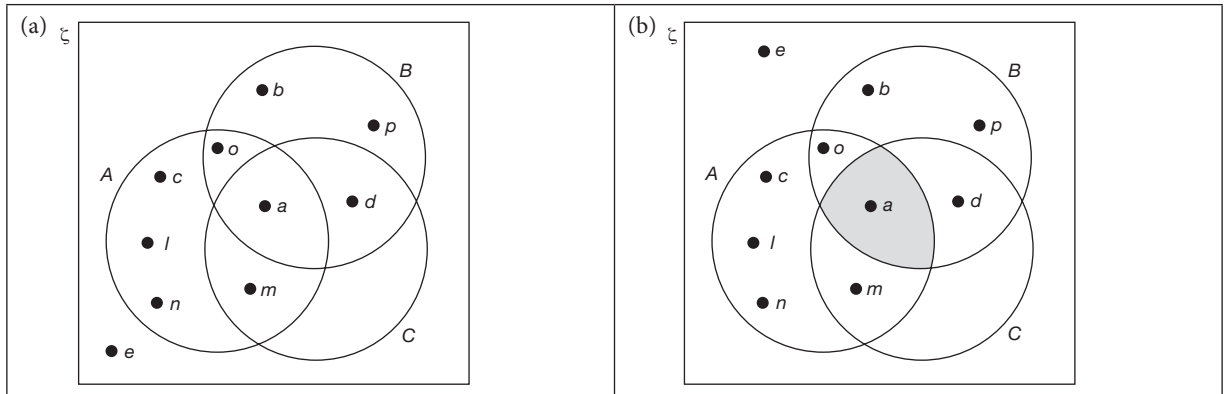
### Praktis Formatif

#### 4.1 Persilangan Set

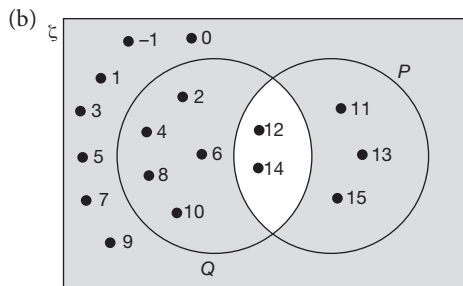
##### Intersection of Sets

- 1  $\xi = \{2, 3, 4, 5, 6, 7, 8, 9, 10\}$ ,  
 $F = \{2, 3, 6\}$   
 $G = \{2, 4, 6, 8, 10\}$   
 $F \cap G = \{2, 6\}$

2



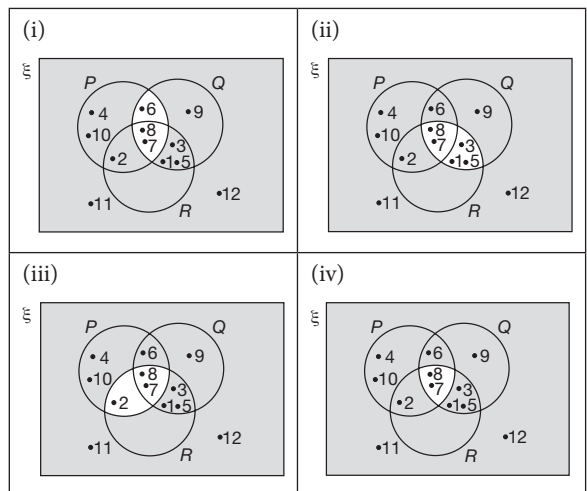
- 3 (a)  $\xi = \{-1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\}$   
 $P = \{11, 12, 13, 14, 15\}$   
 $Q = \{2, 4, 6, 8, 10, 12, 14\}$   
 (i)  $P \cap Q = \{12, 14\}$   
 (ii)  $(P \cap Q)' = \{-1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15\}$



- 4 (a)  $\xi = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$ ,  
 (i)  $(P \cap Q) = \{6, 7, 8\}$   
 $(P \cap Q)' = \{1, 2, 3, 4, 5, 9, 10, 11, 12\}$   
 $n(P \cap Q)' = 9$   
 (ii)  $(Q \cap R) = \{1, 3, 5, 7, 8\}$   
 $(Q \cap R)' = \{2, 4, 6, 9, 10, 11, 12\}$   
 $n(Q \cap R)' = 7$

- (iii)  $(P \cap R) = \{2, 7, 8\}$   
 $(P \cap R)' = \{1, 3, 4, 5, 6, 9, 10, 11, 12\}$   
 $n(P \cap R)' = 9$   
 (iv)  $(P \cap Q \cap R) = \{7, 8\}$   
 $(P \cap Q \cap R)' = \{1, 2, 3, 4, 5, 6, 9, 10, 11, 12\}$   
 $n(P \cap Q \cap R)' = 10$

(b)



- 5 (a) {3, 4, 5, 13}  
 (b) {3, 4, 5, 7, 13}  
 (c) {3, 4, 5, 7, 13}  
 (d) {3, 4, 5, 7, 13}

6  $68 - 20 - 38 = 10$  ahli/members

7  $\xi = \{65 \text{ orang murid}\}$

$\xi = \{65 \text{ pupils}\}$

$M = \{\text{murid yang suka memasak}\}$

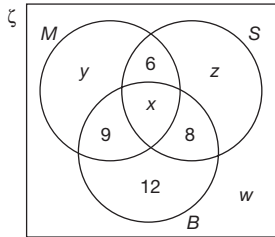
$M = \{\text{pupils who like to cook}\}$

$B = \{\text{murid yang suka membaca buku cerita}\}$

$B = \{\text{pupils who like to read story books}\}$

$S = \{\text{murid yang suka mengumpul setem}\}$

$S = \{\text{pupils who like to collect stamps}\}$



(a)  $x = 36 - 8 - 9 - 12$

$x = 7$

7 orang murid mempunyai ketiga-tiga hobi itu.

7 pupils have all the three hobbies.

(b)  $y = 30 - 6 - 7 - 9$

$y = 8$

8 orang murid suka memasak sahaja.

8 pupils like to cook only.

(c)  $z = 31 - 6 - 7 - 8$

$z = 10$

10 orang murid suka mengumpul setem sahaja.

10 pupils like to collect stamps only.

(d)  $w = 65 - 8 - 6 - 10 - 9 - 7 - 8 - 12$

$w = 5$

5 orang murid tidak mempunyai ketiga-tiga hobi tersebut.

5 pupils do not have all the three hobbies.

- 8 (a) Katakan jumlah murid ialah  $x$ .

Let the total number of pupils be  $x$ .

$$x - 16 = 23 + \frac{3x}{16}$$

$$\frac{16x - 3x}{16} = 23 + 16$$

$$13x = 624$$

$$x = 48$$

(b)  $\frac{x}{16} = \frac{48}{16}$   
 $x = 3$

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

$n(B \cup C) = 7$

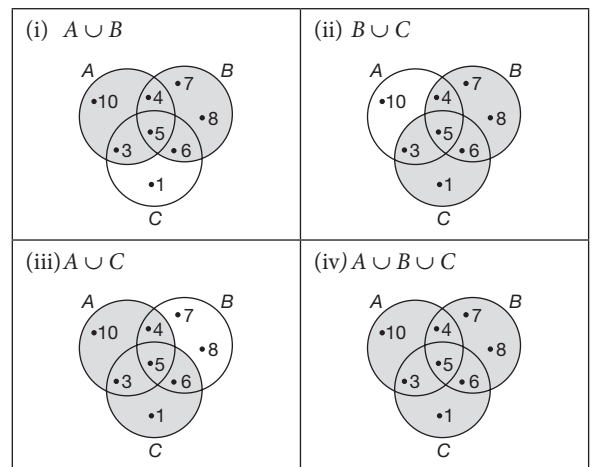
(iii)  $A \cup C = \{1, 3, 4, 5, 6, 10\}$

$n(A \cup C) = 6$

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

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

(b)



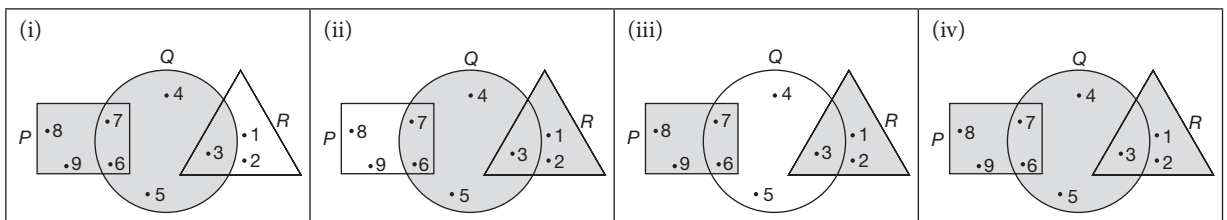
2 (a) (i) {3, 4, 5, 6, 7, 8, 9}

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

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

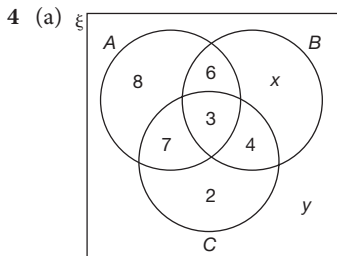
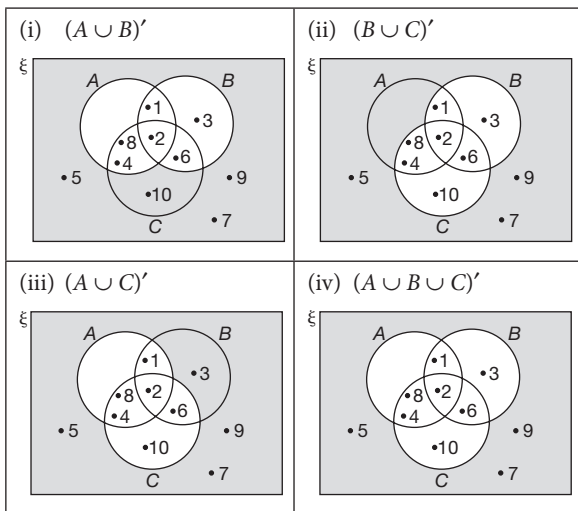
(iv) {1, 2, 3, 4, 5, 6, 7, 8, 9}

(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)  $A \cup C = \{1, 2, 3, 4, 6, 8, 10\}$   
 $(A \cup C)' = \{5, 7, 9\}$   
 $n(A \cup C)' = 4$   
 (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)



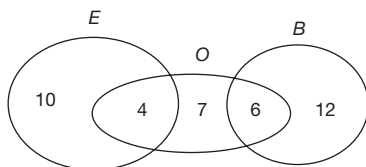
$$x = 18 - 6 - 3 - 4$$

$$x = 5$$

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

$$y = 5$$

5 (a)



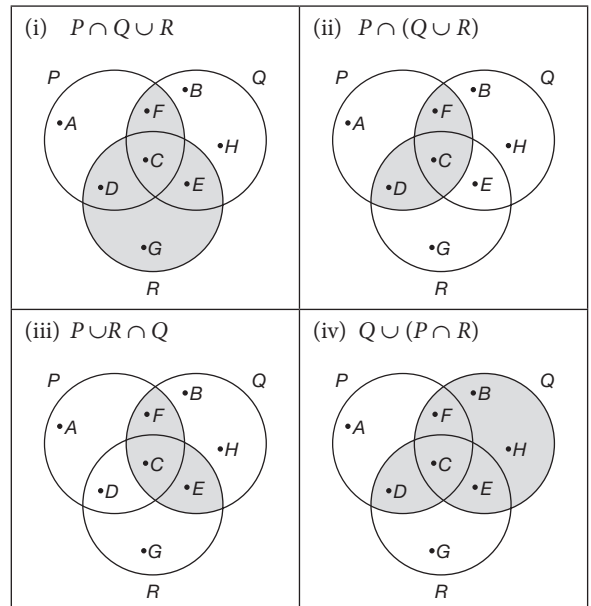
(b)  $10 + 4 + 7 + 6 + 12$   
 $= 39$  orang pekerja/staffs

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

### 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)  $Q = \{B, C, E, F, H\}$   
 $P \cap R = \{C, D\}$   
 $Q \cup (P \cap R) = \{B, C, D, E, F, H\}$

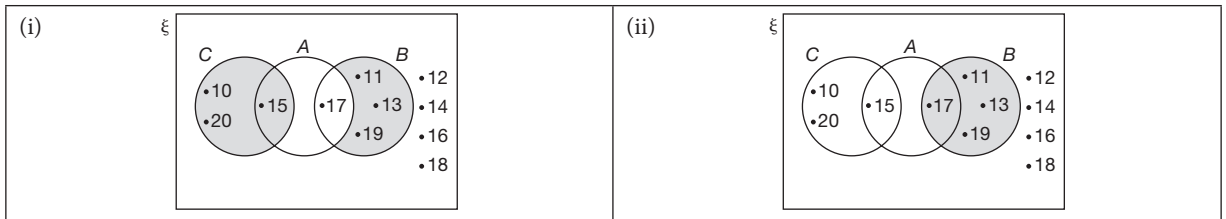
(b)



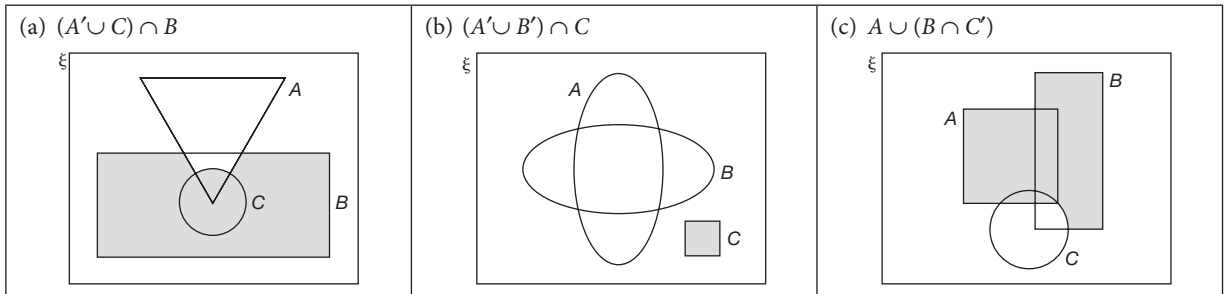
- 3 (a)  $(A \cap B) \cup C$   
 (b)  $B \cup (A \cap C)$
- 4 (a)  $\xi = \{10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20\}$   
 $A = \{15, 17\}$   
 $B = \{11, 13, 17, 19\}$   
 $C = \{10, 15, 20\}$   
 (i)  $A' = \{10, 11, 12, 13, 14, 16, 18, 19, 20\}$   
 $A' \cap B = \{11, 13, 19\}$   
 $(A' \cap B)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

- (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)

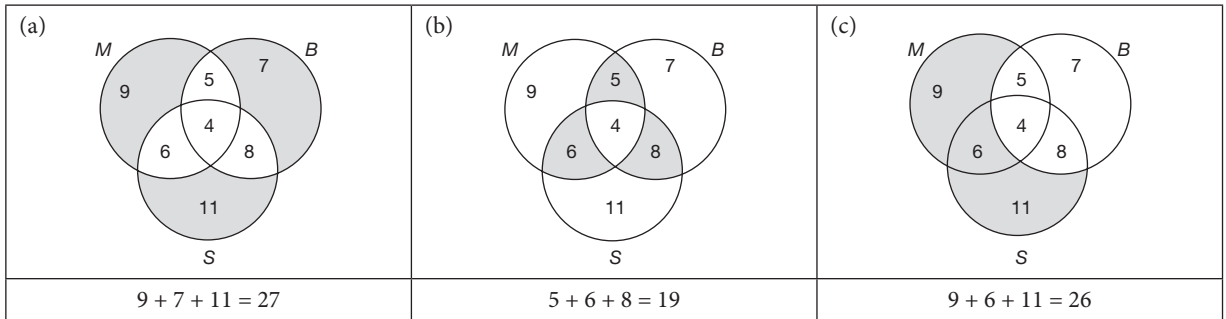


5



- 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  
 $S = \{\text{members of Science society}\}$ .



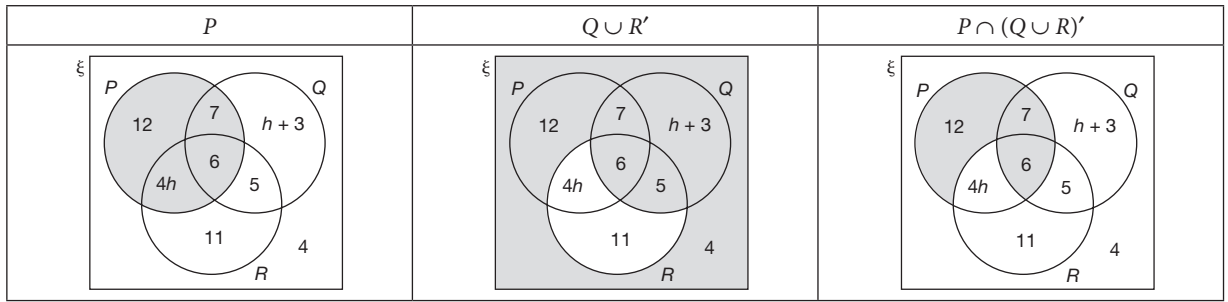
- (d)  $50 - 9 - 5 - 7 - 4 - 6 - 8 - 11 = 0$   
 Tiada/No

- 8 (a)  $n(\xi) = 35$   
 $2h + 2 + 7 + 5 + 4 + 3 + 3h - 1 = 35$   
 $5h + 20 = 35$   
 $5h = 15$   
 $h = 3$

- (b)  $2h + 7 + 3h - 1 = 2(3) + 7 + 3(3) - 1$   
 $= 21$

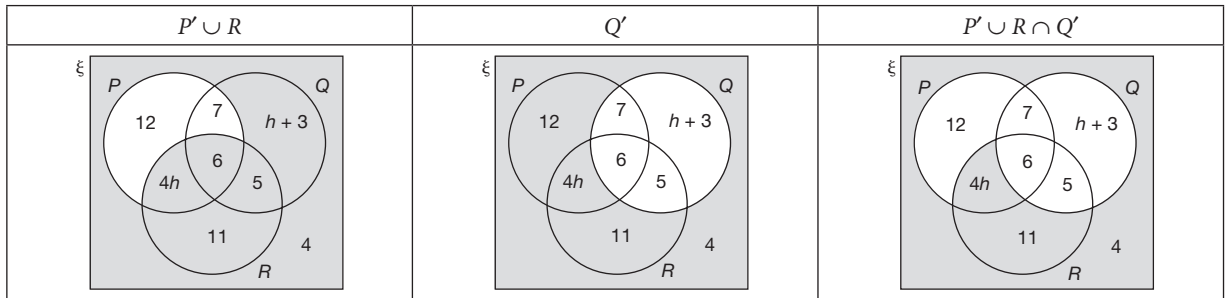
- (c)  $2 + 5 + 3 = 10$   
 9 (a)  $4h + 6 = 7 + h + 3 + 6 + 5$   
 $3h = 15$   
 $h = 5$

(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**

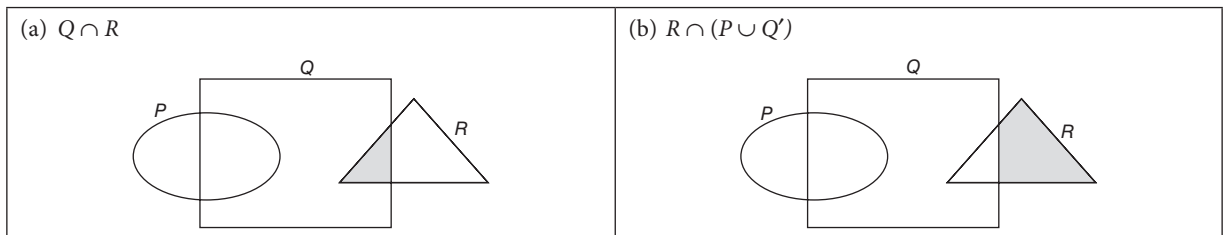
**Kertas 1**

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

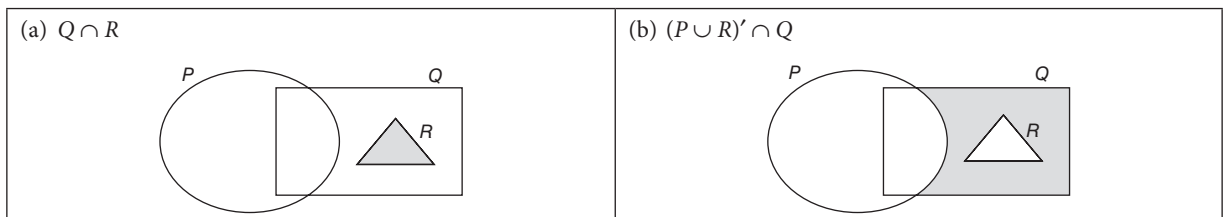
**Kertas 2**

**Bahagian/Section A**

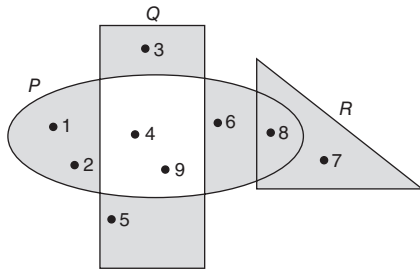
1.



2



- 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):  
 $10 + y = 13$   
 $y = 3$   
 Therefore,  $x + y = 10 + 3$   
 $= 13$   
 (b)  $50 - 2 = 48$   
 (c)  $2x + y + 15 = 2(10) + 3 + 15$   
 $= 38$   
 (d)  $2x + 15 = 2(10) + 15$   
 $= 35$   
 (e) 3  
 (f)  $T \subset K$