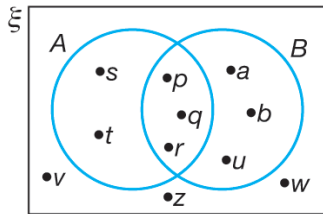


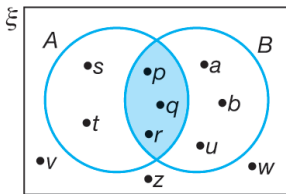
**Praktis Formatif 4.1**

- 1 (a)  $\{b, h, k\}$   
 (b)  $\{5, 6\}$   
 (c)  $P = \{2, 3, 5, 7, \dots\}$   
 $Q = \{1, 2, 3, 4, 5, 6\}$   
 $P \cap Q = \{2, 3, 5\}$   
 (d)  $\{ \}$

- 2 (a)  $\{p, q, r\}$   
 (b) (i)



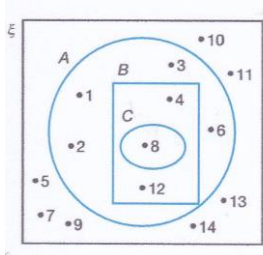
(ii)



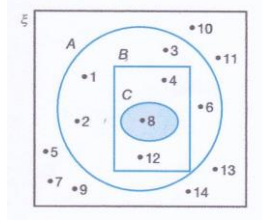
- 3 (a)  $\{2, 4, 5\}$   
 (b)  $\{5, 7, 9\}$

- 4  $A = \{1, 2, 3, 4, 6, 8, 12\}$   
 $B = \{4, 8, 12\}$   
 $C = \{8\}$

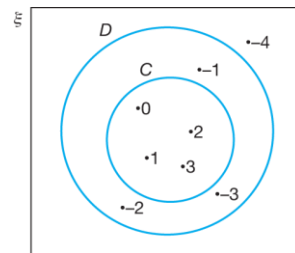
(a)



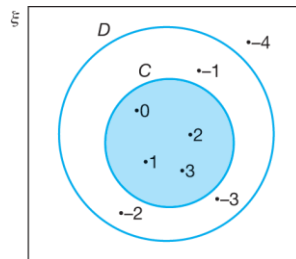
(b)



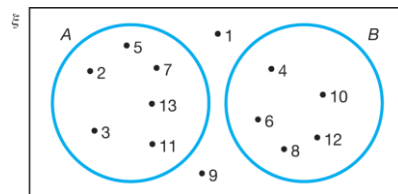
- 5 (a)  $\{0, 1, 2, 3\}$   
 (b) (i)



(ii)

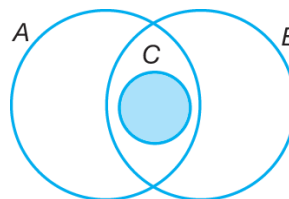


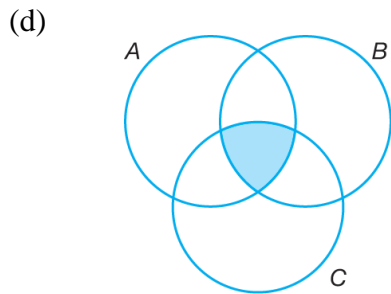
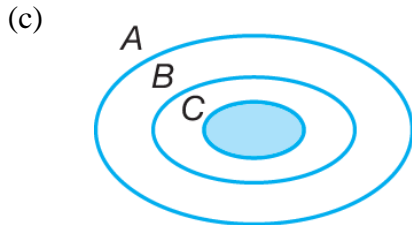
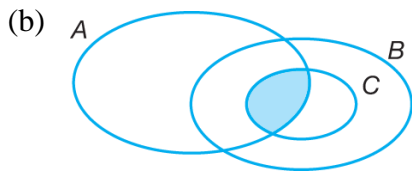
- 6 (a)  $A = \{2, 3, 5, 7, 11, 13\}$   
 $B = \{4, 6, 8, 10, 12\}$



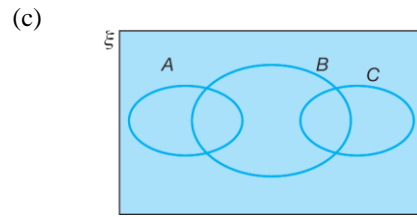
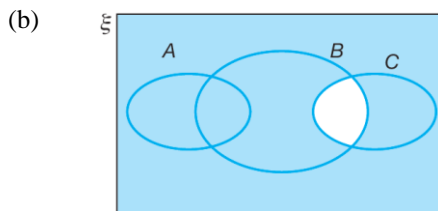
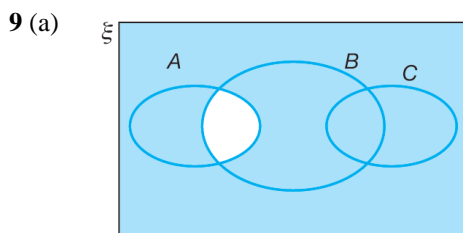
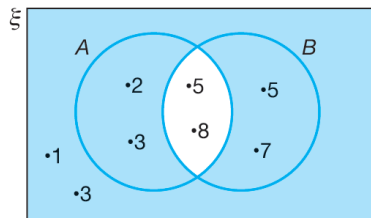
(b)  $A \cap B = \{ \}$

7 (a)

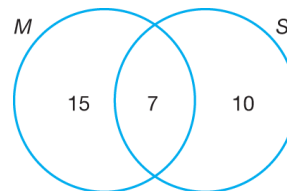
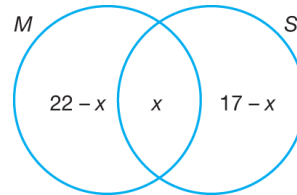




- 8 (a) (i)  $A \cap B = \{6, 8\}$   
 (ii)  $(A \cap B)' = \{1, 2, 3, 4, 5, 7\}$   
 (b)



10



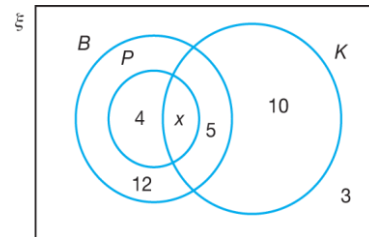
$$22 - x + x + 17 - x = 32$$

$$7 - x = 0$$

$$x = 7$$

- (a) Bilangan murid yang meminati kedua-dua Matematik dan Sains ialah 7 orang.  
 (b) Bilangan murid yang meminati Sains tetapi tidak meminati Matematik ialah 10 orang.

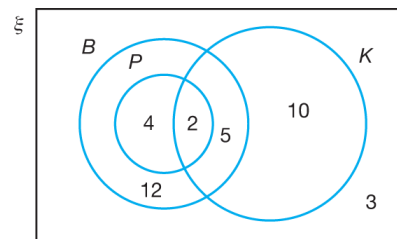
11



$$n(\xi) = 36$$

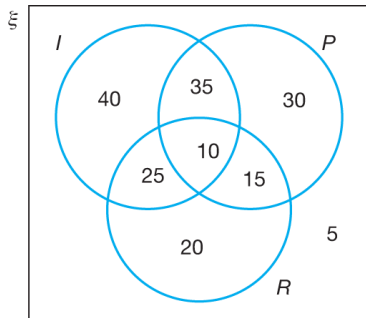
$$12 + 4 + x + 5 + 10 + 3 = 36$$

$$x = 2$$



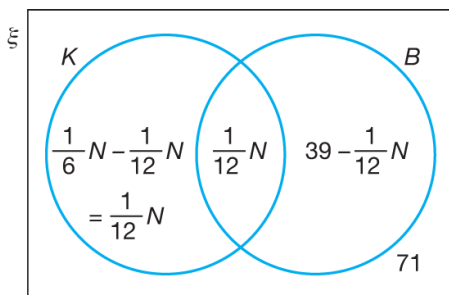
- (a)  $n(B \cap P \cap K) = 2$  orang murid
- (b)  $n(P' \cap K) = 5 + 10 = 15$  orang murid
- (c)  $n(B \cap P') = 5 + 12 = 17$  orang murid
- (d) Bilangan murid yang gemar bermain sejenis permainan sahaja =  $12 + 10 = 22$  orang

12



- (a)  $n(\text{internet dan telefon pintar tetapi bukan membaca}) = 35$  orang murid
- (b)  $n(\text{dua aktiviti sahaja}) = 35 + 25 + 15 = 75$  orang murid
- (c)  $n(\text{satu aktiviti sahaja}) = 40 + 30 + 20 = 90$  orang murid
- (d)  $n(\text{tidak menggemari mana-mana aktiviti}) = 5$  orang murid

13



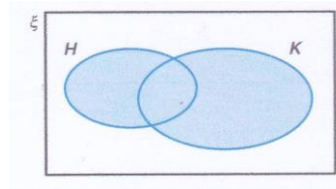
- (a)  $\frac{1}{12}N + \frac{1}{12}N + \left(39 - \frac{1}{12}N + 71\right) = N$   
 $\frac{11}{12}N = 110$   
 $N = 120$   
 Jumlah bilangan penuntut = 120 orang
- (b)  $\frac{1}{12}N = \frac{1}{12} \times 120 = 10$  orang penuntut
- (c)  $120 - 10 = 110$  orang penuntut

**Praktis Formatif 4.2**

- 1 (a)  $\{5, 7, 15, 20\}$
- (b)  $\{a, b, c, d, x, y, z\}$
- (c)  $\{p, q, r, s\}$

- 2  $P = \{3, 6, 9, 12\}$
- $Q = \{1, 2, 3, 4, 6, 12\}$
- $P \cup Q = \{1, 2, 3, 4, 6, 9, 12\}$

3 (a)

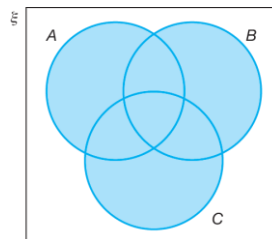


(b)

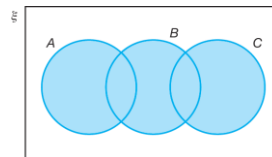


- 4 (a)  $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$
- (b)  $\{a, b, c, d, e, f, h, j, i, l, o\}$

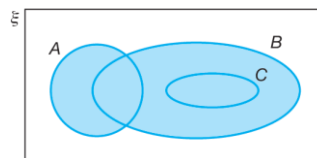
5 (a)



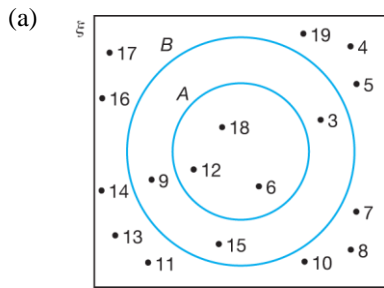
(b)



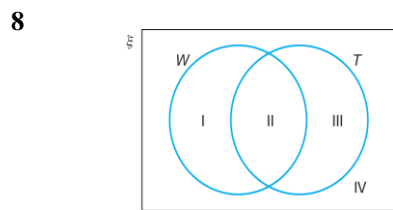
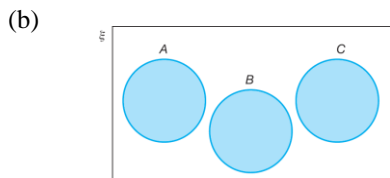
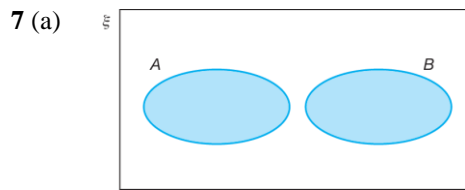
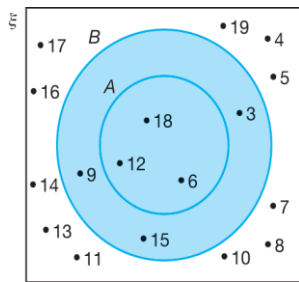
(c)



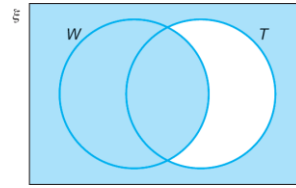
6  $A = \{6, 12, 18\}$   
 $B = \{3, 6, 9, 12, 15, 18\}$



(b) (i)  $A \cup B = \{3, 6, 9, 12, 15, 18\}$

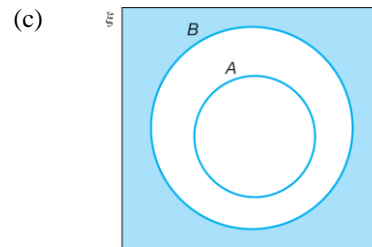
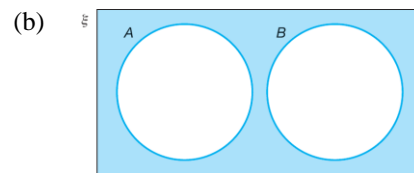
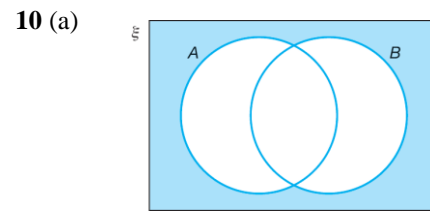


$W = \{I, II\}$   
 $T = \{I, III\}$   
 $W \cup T = \{I, II, III\}$

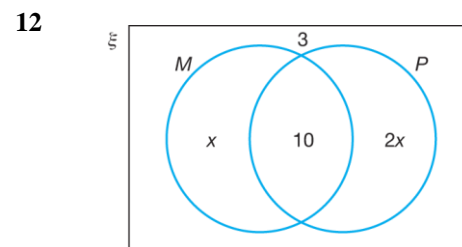


9 (a)  $A \cup B = \{1, 3, 5, 6, 7, 9\}$   
 $(A \cap B) = \{2, 4, 8, 10\}$

(b)  $P \cup Q = \{a, b, c, d, e, f\}$   
 $(P \cap Q)' = \{g, h\}$



11  $n(K \cup M)' = n(L \cup M)'$   
 $4 + 5 = x + 5$   
 $x = 4$

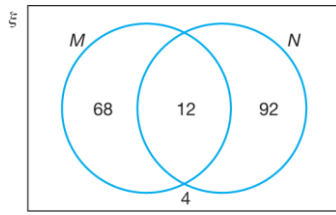


$x + 10 + 2x + 3 = 40$   
 $3x = 27$   
 $x = 9$   
 $n(\text{Pandu Puteri}) = 10 + 2x$

$$= 10 + 2(9)$$

$$= 28$$

13



$$n(\xi) = 68 + 12 + 92 + 4 = 176 \text{ orang}$$

murid

14 (a)  $2k + k + 3 = 18$

$$3k = 15$$

$$k = 5$$

(b)  $n(\xi) = 4k + 3 = 4(5) + 3 = 23$  orang  
peserta

15 (a)  $n(E \cap K) = 8$

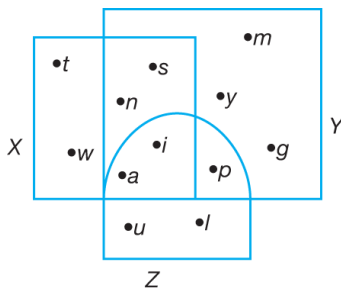
$$2 + 2h = 8$$

$$h = 3$$

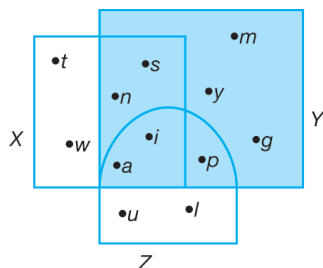
(b) Bilangan murid yang menggemari dua jenis minuman sahaja  
 $= 5 + 1 + 2(3)$   
 $= 12$

**Praktis Formatif 4.3**

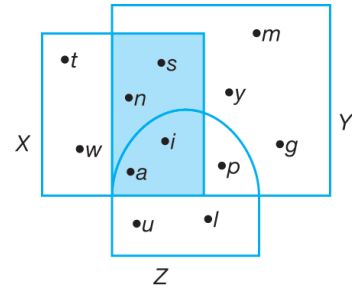
1 (a)



(b) (i)



(ii)



2 (a) (i)  $A = \{1, 2, 4, 5, 10\}$

(ii)  $B = \{4, 8\}$

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

(b) (i)  $B \cap C = \{4, 8\}$

$$A \cup (B \cap C) = \{1, 2, 4, 5, 8, 10\}$$

(ii)  $A \cup B = \{1, 2, 4, 5, 8, 10\}$

$$C \cap (A \cup B) = \{2, 4, 8, 10\}$$

(iii)  $A \cup C = \{1, 2, 4, 5, 6, 8, 10\}$

$$B \cap (A \cup C) = \{4, 8\}$$

(c) (i)  $n[A \cup (B \cap C)] = 6$

(ii)  $n[C \cap (A \cup B)] = 4$

(iii)  $n[B \cap (A \cup C)] = 2$

3 (a)  $(P \cap Q) \cup R$

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

4  $A = \{1, 3, 5, 7, 9\}$

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

$C = \{2, 3, 4, 5, 6\}$

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

$$A \cup B \cap C = \{2, 3, 4, 5, 6\}$$

$$(A \cup B \cap C)' = \{1, 7, 8, 9, 10\}$$

(b)  $B' = \{1, 3, 5, 7, 9\}$

$$B' \cap C = \{3, 5\}$$

$$A \cup (B' \cap C) = \{1, 3, 5, 7, 9\}$$

(c)  $A' = \{2, 4, 6, 8, 10\}$

$$B \cup C = \{2, 3, 4, 5, 6, 8, 10\}$$

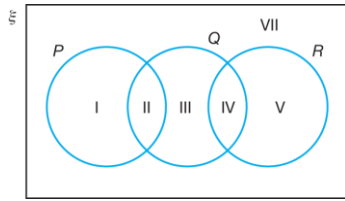
$$A' \cap (B \cup C) = \{2, 4, 6, 8, 10\}$$

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

$$C' = \{1, 7, 8, 9, 10\}$$

$$A \cup B \cap C' = \{1, 7, 8, 9, 10\}$$

5 (a)

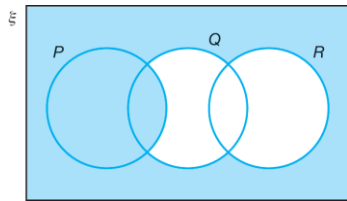


$$P = \{I, II\}$$

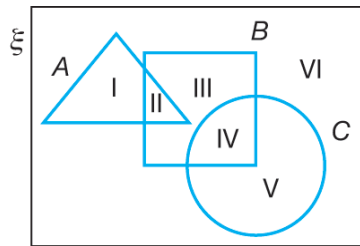
$$Q \cup R = \{II, III, IV, V\}$$

$$(Q \cup R)' = \{I, VII\}$$

$$P \cup (Q \cup R)' = \{I, II, VII\}$$



(b)

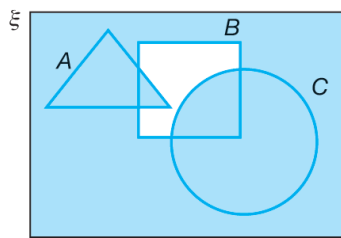


$$A = \{I, II\}$$

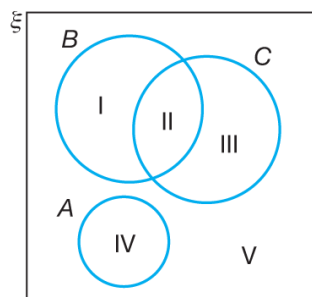
$$B' = \{I, V, VI\}$$

$$C = \{IV, V\}$$

$$A \cup B' \cup C = \{I, II, IV, V, VI\}$$



6 (a)



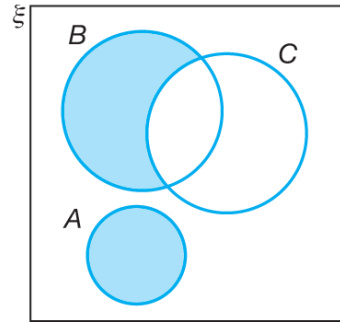
$$C' = \{I, IV, V\}$$

$$B = \{I, II\}$$

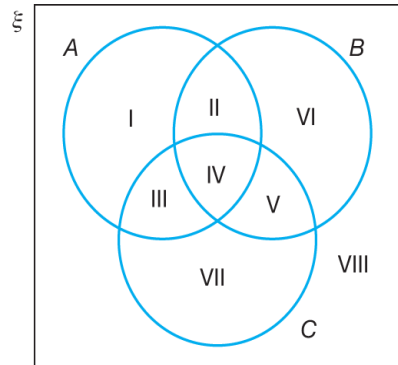
$$C' \cap B = \{I\}$$

$$A = \{IV\}$$

$$(C' \cap B) \cup A = \{I, IV\}$$



(b)



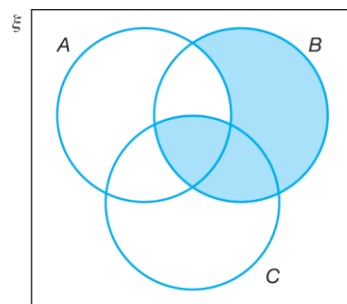
$$A' = \{V, VI, VII, VIII\}$$

$$C = \{III, IV, V, VII\}$$

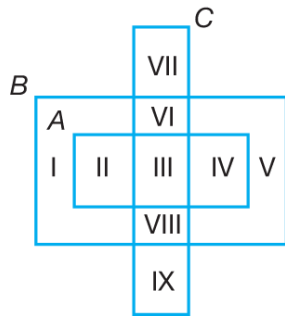
$$A' \cup C = \{III, IV, V, VI, VII, VIII\}$$

$$B = \{II, IV, V, VI\}$$

$$(A' \cup C) \cap B = \{IV, V, VI\}$$



7

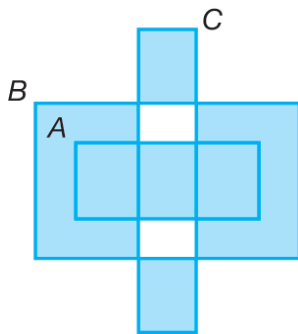


$$B \cap C = \{III, VI, VIII\}$$

$$(B \cap C)' = \{I, II, IV, V, VII, IX\}$$

$$A = \{II, III, IV\}$$

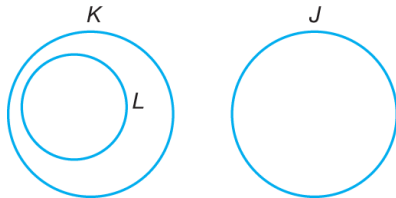
$$(B \cap C)' \cup A = \{I, II, III, IV, V, VII, IX\}$$



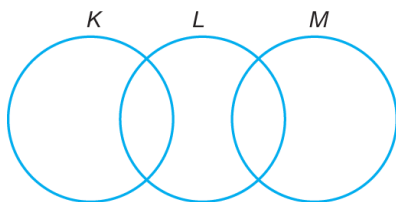
8  $(Q' \cap P) \cap R$

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

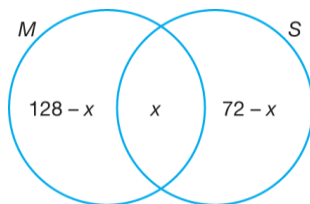
10



11



12



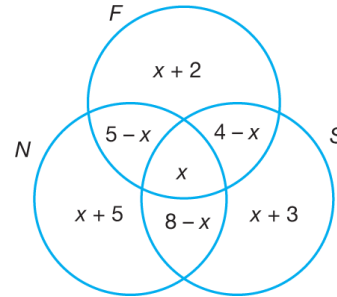
$$n(\xi) = 160$$

$$128 + 72 - x = 160$$

$$x = 40$$

Maka, bilangan murid yang mencapai gred A dalam kedua-dua Matematik dan Sains ialah 40 orang.

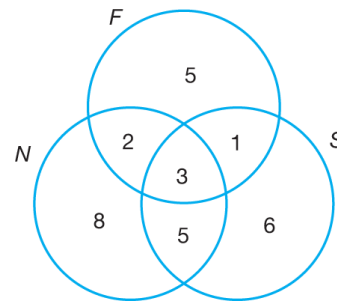
13



$$n(\xi) = x + 27 = 30$$

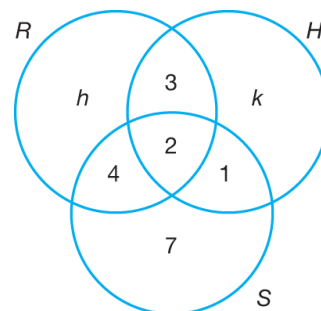
$$x = 3$$

(a)



- (b) (i) Bilangan murid yang gemar membaca ketiga-tiga jenis buku ialah 3 orang.  
 (ii) Bilangan murid yang gemar membaca buku bukan fiksiyen atau buku sukan tetapi bukan buku cerita fiksiyen ialah  $8 + 5 + 6 = 19$  orang.  
 (iii) Bilangan murid yang gemar membaca buku cerita fiksiyen dan buku sukan sahaja = 1 orang.

14 (a)



(b)  $n(\xi) = 40$   
 $h + k + 17 = 40$   
 $h + k = 23 \dots (1)$

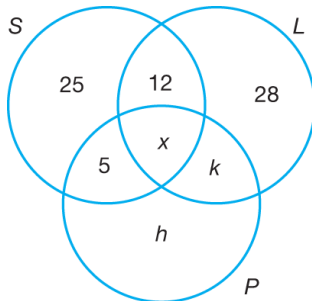
$n(R) = n(H)$   
 $h + 9 = k + 6$   
 $h - k = -3 \dots (2)$

$(1) - (2) : 2k = 26$   
 $k = 13$

Daripada (1) :  
 $h + 13 = 23$   
 $h = 10$

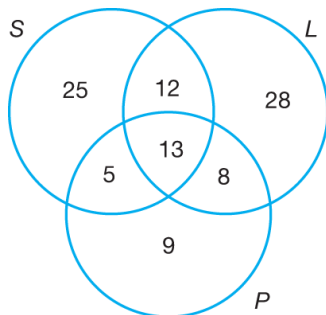
(c) Bilangan murid yang mempunyai dua ciri sahaja =  $3 + 4 + 1 = 8$  orang

15



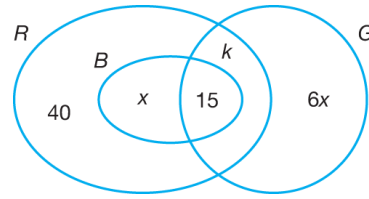
(a)  $n(S) = 55$   
 $x + 42 = 55$   
 $x = 13$   
 $n(L) = 61$   
 $40 + 13 + k = 91$   
 $k = 8$

$n(\xi) = 100$   
 $h + 91 = 100$   
 $h = 9$



Bilangan penonton yang gemar menonton kisah menakutkan atau lucu dan penyiasatan =  $5 + 13 + 8 = 26$  orang.

16



(a)  $n(B) = \frac{1}{6} \times n(R)$

$x + 15 = \frac{1}{6}(x + k + 55)$

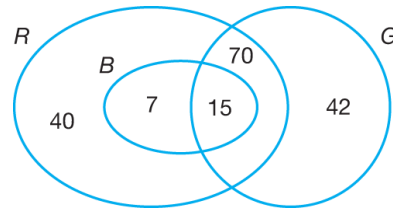
$x + 15 = \frac{1}{6}(x + 70 + 55)$

$6x + 90 = x + 125$

$5x = 35$

$x = 7$

(b)



Bilangan ahli yang menyertai tidak lebih daripada dua kelab  
 $= 40 + 7 + 70 + 42$   
 $= 159$  orang

**Praktis Sumatif 4**

**Soalan Objektif**

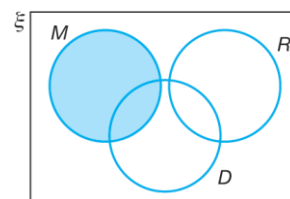
1 Set yang mewakili rantau berlorek ialah  $P' \cup Q$

Jawapan: B

2 Set yang mewakili rantau berlorek ialah  $(P \cup R)' \cap Q$ .

Jawapan: C

3 Gambar rajah Venn yang mewakili murid yang menggemari nanas tetapi bukan belimbing ialah

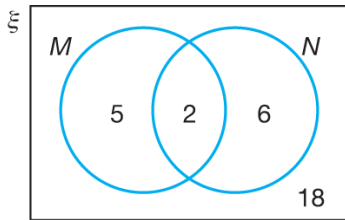


Jawapan: C



- 4  $M = \{x : x \text{ ialah gandaan } 5\}$   
 $M = \{10, 15, 20, 25, 30, 35, 40\}$
- $N = \{x : x \text{ ialah gandaan } 4\}$   
 $N = \{12, 16, 20, 24, 28, 32, 36, 40\}$
- $M \cap N = \{20, 40\}$   
 $(M \cup N)' = \{11, 13, 14, 17, 18, 19, 21, 22, 23, 26, 27, 29, 31, 33, 34, 37, 38, 39\}$

Gambar rajah Venn yang dikehendaki ialah



Jawapan: D

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

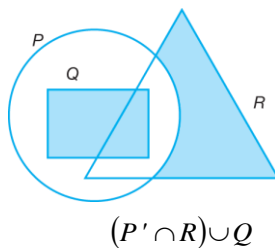
Jawapan: A

- 6 Set yang mewakili rantau berlorek ialah  $(P \cup R)'$ .

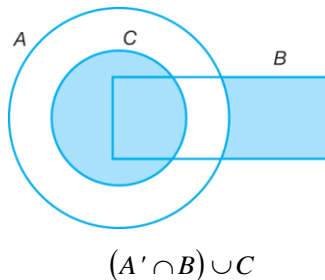
Jawapan: C

### Soalan Struktur

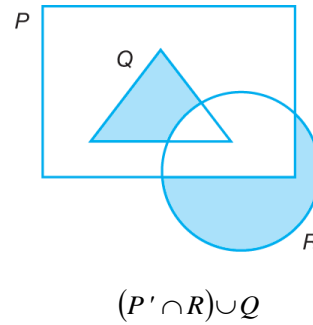
1



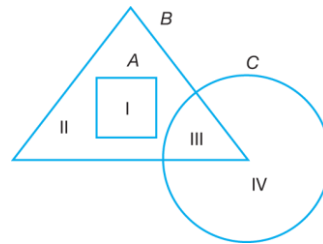
2



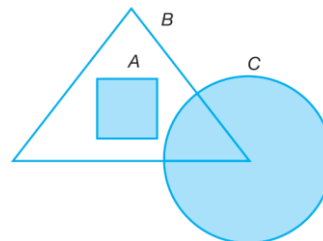
3



4



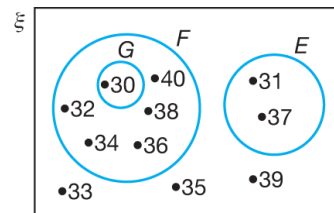
- $A = \{I\}$   
 $B' = \{IV\}$   
 $A \cup B' = \{I, IV\}$   
 $C = \{III, IV\}$   
 $(A \cup B)' \cup C = \{I, III, IV\}$



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

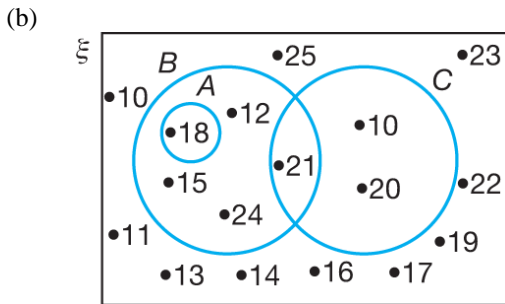
- 6 (a)  $\xi = \{30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40\}$   
 $E = \{31, 37\}$   
 $F = \{30, 32, 34, 36, 38, 40\}$   
 $G = \{30\}$

(b)

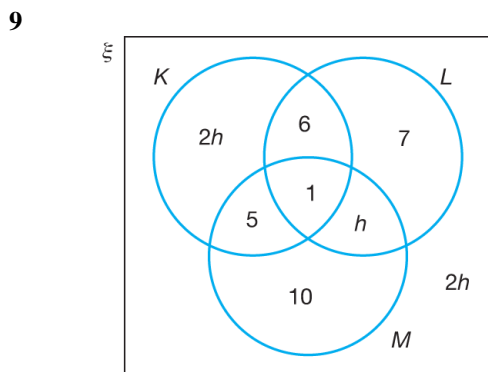
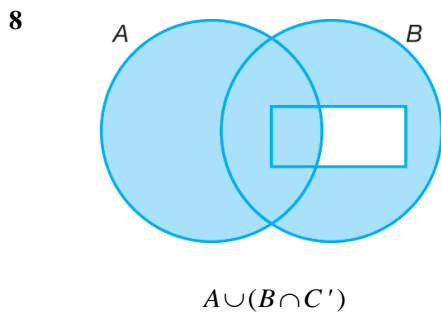


(c)  $F \cap G = \{30\}$   
 $E \cup (F \cap G) = \{30, 31, 37\}$   
 (d)  $n[E \cup (F \cap G)] = 3$

- 7 (a)  $\xi = \{10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25\}$   
 $A = \{18\}$   
 $B = \{12, 15, 18, 21, 24\}$   
 $C = \{10, 20, 21\}$

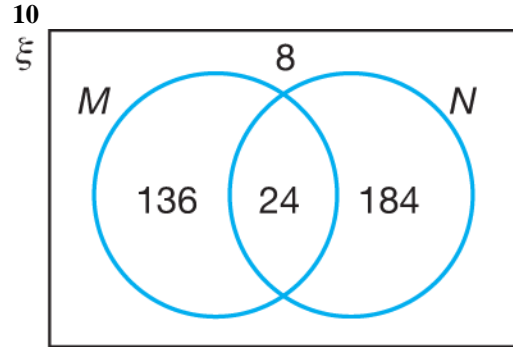


(c)  $(A \cap B) \cup (B \cap C)$   
 $= \{18\} \cup \{21\}$   
 $= \{18, 21\}$   
 (d)  $n(B \cap C)' = 15 + 1 - 1 = 15$



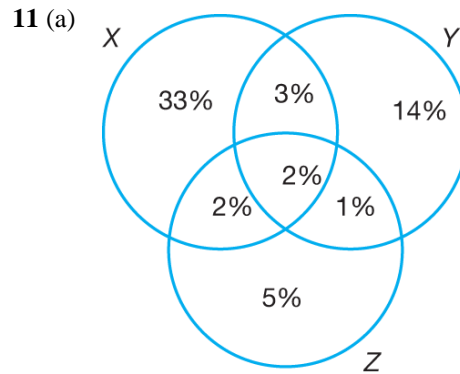
(a)  $n(K) = n(L \cup M)'$   
 $2h + 12 = 4h$   
 $2h = 12$   
 $h = 6$

(b)  $n[(K \cap L) \cup (L \cap M) \cup (K \cap M)]'$   
 $= 2h + 7 + 10 + 2h$   
 $= 4h + 17$   
 $= 4(6) + 17$   
 $= 41$



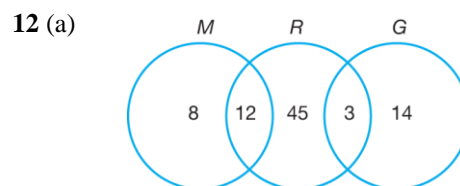
(a) Jumlah bilangan murid  
 $= 136 + 24 + 184 + 8$   
 $= 352$

(b) Bilangan murid yang gemar membaca sejenis majalah sahaja  
 $= 136 + 184$   
 $= 320$  orang



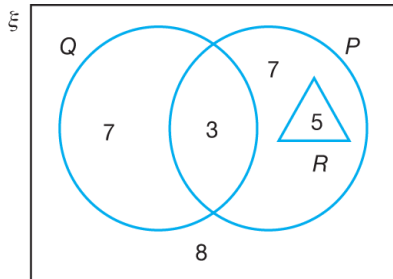
(b) Peratusan pelanggan yang membeli satu jenama pencuci muka sahaja  
 $= 33\% + 14\% + 5\%$   
 $= 52\%$

Bilangan pelanggan yang membeli satu jenama pencuci muka sahaja  
 $= \frac{52}{100} \times 10\,000$   
 $= 5\,200$  orang



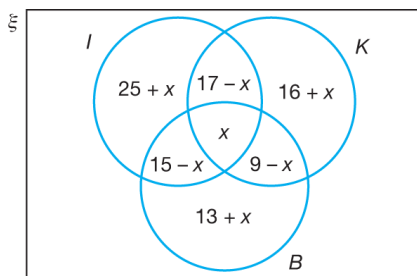
- (b) Bilangan murid yang menggemari dua hobi sahaja  
 $= 12 + 3$   
 $= 15$  orang

13 (a)



- (a)  $h = 7, k = 5, m = 8$   
 (b) (i) Bilangan pelanggan yang tidak membeli sabun jenama  $R$  tetapi membeli sabun jenama  $P$   
 $= 7 + 3$   
 $= 10$  orang  
 (ii) Bilangan pelanggan yang tidak membeli sabun jenama  $Q$  tetapi membeli sabun jenama  $P$   
 $= 7 + 5$   
 $= 12$  orang  
 (c) Bilangan pelanggan yang membeli satu jenama sabun sahaja  
 $= 7 + 7$   
 $= 14$  orang  
 (d)  $P' \cap R = \{ \}$   
 $\therefore n(P' \cap R) = 0$

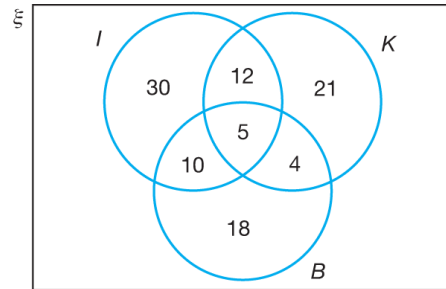
14



$$25 + x + 15 - x + x + 17 - x + 16 + x + 9 - x + 13 + x = 100$$

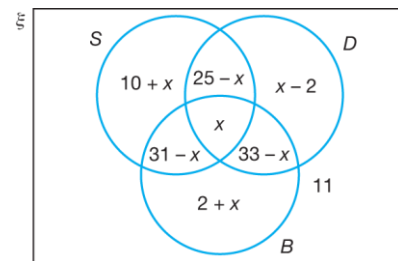
$$95 + x = 100$$

$$x = 5$$



- (a) Bilangan suri rumah yang gemar memasak  
 (i) ketiga-tiga makanan = 5 orang  
 (ii) satu jenis makanan sahaja  
 $= 30 + 21 + 18$   
 $= 69$  orang  
 (iii) ayam goreng atau kari ayam tetapi bukan sayur brokoli  
 $= 30 + 12 + 21$   
 $= 63$  orang

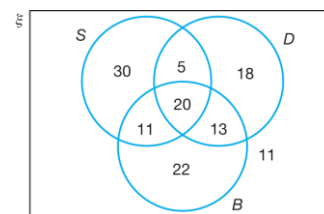
15



$$10 + x + 25 - x + x + 31 - x + x - 2 + 33 - x + 2 + x + 11 = 130$$

$$x + 110 = 130$$

$$x = 20$$



- (b) Bilangan pelanggan yang menggemari  
 (i) ketiga-tiga program  
 $= 20$   
 (ii) satu jenis program sahaja  
 $= 30 + 18 + 22$   
 $= 70$  orang  
 (iii) sekurang-kurangnya dua jenis program  
 $= 5 + 11 + 13 + 20$   
 $= 49$  orang