

## MATEMATIK | TINGKATAN 4

## 4.2 KESATUAN SET

**Contoh 8**

Diberi set  $P = \{\text{faktor bagi } 24\}$ , set  $Q = \{\text{gandaan } 3 \text{ yang kurang daripada } 20\}$  dan set  $R = \{\text{gandaan } 4 \text{ yang kurang daripada } 20\}$ .

(a) Senaraikan semua unsur bagi set yang berikut.

(i)  $P \cup Q$

(ii)  $P \cup R$

(iii)  $Q \cup R$

(iv)  $P \cup Q \cup R$

(b) Lukis gambar rajah Venn yang mewakili set  $P$ , set  $Q$ , set  $R$  dan lorekkan kawasan yang mewakili kesatuan set yang berikut.

(i)  $P \cup Q$

(ii)  $P \cup Q \cup R$

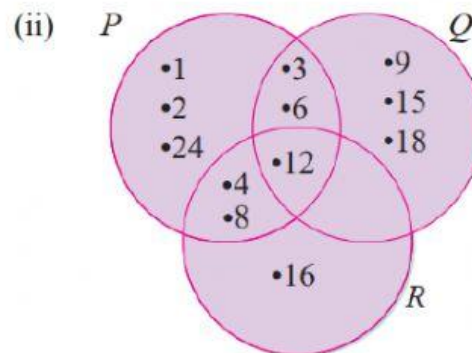
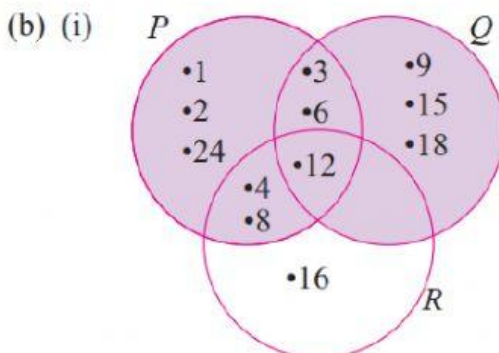
**Penyelesaian:**

(a) (i)  $P = \{1, 2, 3, 4, 6, 8, 12, 24\}$   
 $Q = \{3, 6, 9, 12, 15, 18\}$   
 $P \cup Q = \{1, 2, 3, 4, 6, 8, 9, 12, 15, 18, 24\}$

(ii)  $P = \{1, 2, 3, 4, 6, 8, 12, 24\}$   
 $R = \{4, 8, 12, 16\}$   
 $P \cup R = \{1, 2, 3, 4, 6, 8, 12, 16, 24\}$

(iii)  $Q = \{3, 6, 9, 12, 15, 18\}$   
 $R = \{4, 8, 12, 16\}$   
 $Q \cup R = \{3, 4, 6, 8, 9, 12, 15, 16, 18\}$

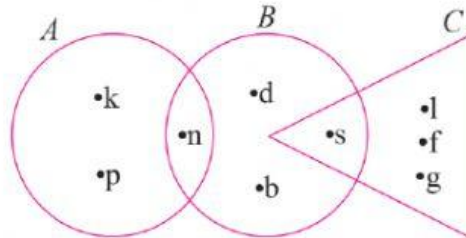
(iv)  $P = \{1, 2, 3, 4, 6, 8, 12, 24\}$   
 $Q = \{3, 6, 9, 12, 15, 18\}$   
 $R = \{4, 8, 12, 16\}$   
 $P \cup Q \cup R = \{1, 2, 3, 4, 6, 8, 9, 12, 15, 16, 18, 24\}$



**Arahan:** Jawab semua soalan dengan mengisi tempat kosong (TANPA jarak).

**Praktis Kendiri 4.2a**

1. Gambar rajah Venn menunjukkan set  $A$ , set  $B$  dan set  $C$  dengan keadaan set semesta,  $\xi = A \cup B \cup C$



Senaraikan semua unsur bagi set yang berikut.

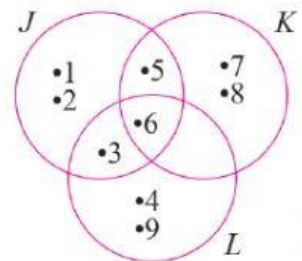
- (a)  $A \cup B$                       (b)  $A \cup C$                       (c)  $B \cup C$                       (d)  $A \cup B \cup C$

**Penyelesaian:**

- a)  $A \cup B = \{ \quad \quad \quad \}$   
 b)  $A \cup C = \{ \quad \quad \quad \}$   
 c)  $B \cup C = \{ \quad \quad \quad \}$   
 d)  $A \cup B \cup C = \{ \quad \quad \quad \}$

4. Gambar rajah Venn menunjukkan set  $J$ , set  $K$  dan set  $L$  dengan keadaan set semesta,  $\xi = J \cup K \cup L$ .  
 Senaraikan semua unsur bagi set yang berikut.

- (a)  $J \cup K$   
 (b)  $J \cup L$   
 (c)  $J \cup K \cup L$



**Penyelesaian:**

- a)  $J \cup K = \{ \quad \quad \quad \}$   
 b)  $J \cup L = \{ \quad \quad \quad \}$   
 c)  $J \cup K \cup L = \{ \quad \quad \quad \}$