

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) $P \cup Q \cup R$

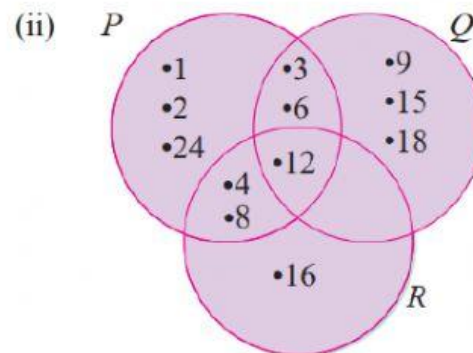
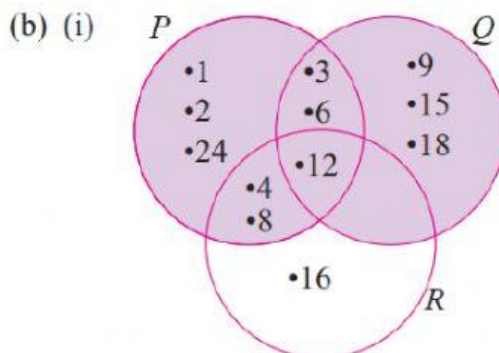
Penyelesaian:

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

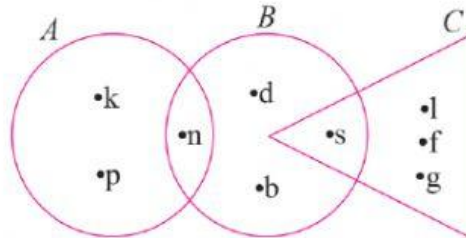
(iv) $P = \{1, 2, 3, 4, 6, 8, 12, 24\}$
 $Q = \{3, 6, 9, 12, 15, 18\}$
 $R = \{4, 8, 12, 16\}$
 $P \cup Q \cup R = \{1, 2, 3, 4, 6, 8, 9, 12, 15, 16, 18, 24\}$



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.

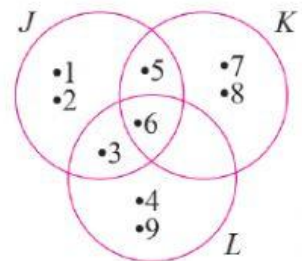
- (a) $A \cup B$ (b) $A \cup C$ (c) $B \cup C$ (d) $A \cup B \cup C$

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) $J \cup K \cup L = \{ \quad \quad \quad \}$