

BAB
11Pengenalan Set
Introduction to Sets

Bahagian A / Section A

11.1 Set
Sets

- 1 Diberi bahawa $B = \{\text{Buah-buahan tempatan}\}$.
Antara yang berikut, yang manakah benar
tentang unsur set B ?

*It is given that $B = \{\text{Local fruits}\}$. Which of the
following is true about the elements of set B ?*

- | | |
|------------------|------------------------|
| A Epal
Apple | C Anggur
Grape |
| B Oren
Orange | D Rambutan
Rambutan |

- 2 Pernyataan yang manakah yang **tidak** benar
tentang set kosong?

*Which of the following statements is **not** true about
empty sets?*

- A Jika $M = \{\text{Bulan Mac yang mempunyai 30 hari}\}$, maka $M = \phi$
If $M = \{\text{March which has 30 days}\}$, then $M = \phi$
- B Jika $N = \{\text{Nombor ganjil yang boleh dibahagi
tepat dengan 2}\}$, maka $N = \phi$
*If $N = \{\text{An odd number which is divisible by 2}\}$,
then $N = \phi$*
- C Jika $P = \{x : x \text{ ialah integer negatif dan } x \text{ ialah
nombor kuasa dua sempurna}\}$, maka $P = \phi$
*If $P = \{x : x \text{ is a negative integer and } x \text{ is a perfect
square}\}$, then $P = \phi$*
- D Jika $Q = \{\text{Sudut pedalaman bagi segi tiga
sama sisi ialah } 60^\circ\}$, maka $P = \phi$
*If $Q = \{\text{Interior angle of an equilateral triangle
is } 60^\circ\}$, then $Q = \phi$*

- 3 Rajah 1 menunjukkan unsur bagi set Q .
Diagram 1 shows elements of set Q .

$Q = \{K, E, S, O, P, A, N, A, N\}$

Rajah 1 / Diagram 1

Berapakah bilangan unsur bagi set Q ?
What is the number of elements in set Q ?

- A 6
B 7
C 8
D 9

11.2 Gambar Rajah Venn, Set Semesta,
Pelengkap bagi Suatu Set dan Subset
Venn Diagrams, Universal Sets,
Complement of a Set and Subsets

- 4 Diberi bahawa set $A = \{1, 3, 5\}$.

It is given that set $A = \{1, 3, 5\}$.

Senaraikan semua subset bagi set A .

List all the subsets of set A .

- A $\phi, \{1\}, \{3\}, \{5\}, \{1, 3\}, \{1, 5\}, \{3, 5\}$
B $\phi, \{1\}, \{3\}, \{5\}, \{1, 3\}, \{1, 3, 5\}$
C $\phi, \{1\}, \{3\}, \{5\}, \{1, 3\}, \{1, 5\}, \{3, 5\}, \{1, 3, 5\}$
D $\{1\}, \{3\}, \{5\}, \{1, 3\}, \{1, 5\}, \{3, 5\}, \{1, 3, 5\}$

- 5 Diberi set $Q = \{\text{nombor kuasa dua sempurna
kurang daripada 50}\}$, cari $n(Q)$.

*Given that set $Q = \{\text{perfect squares less than 50}\}$,
find $n(Q)$.*

- | | |
|-----|------|
| A 7 | C 9 |
| B 8 | D 10 |

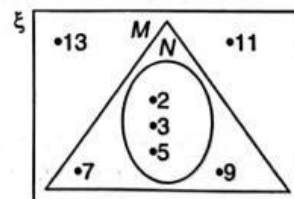
- 6 Diberi bahawa $\xi = \{x : x \text{ ialah faktor bagi 28}\}$ dan
 $Q = \{x : x \text{ ialah faktor perdana bagi 28}\}$. Tentukan
set Q' .

*It is given that $\xi = \{x : x \text{ is a factor of 28}\}$ and
 $Q = \{x : x \text{ is a prime factor of 28}\}$. Determine set Q' .*

- | | |
|----------------------|----------------------|
| A $\{2, 4, 14, 28\}$ | C $\{1, 4, 14, 28\}$ |
| B $\{1, 4, 7, 28\}$ | D $\{1, 2, 7, 28\}$ |

- 7 Rajah 2 menunjukkan sebuah gambar rajah
Venn.

Diagram 2 shows a Venn diagram.



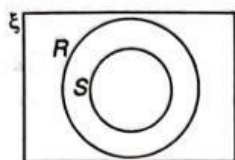
Rajah 2 / Diagram 2

Senaraikan unsur bagi N' .

List the elements of N' .

- A $\{2, 3, 5\}$
B $\{7, 9, 11, 13\}$
C $\{3, 7, 9, 11, 13\}$
D $\{2, 3, 5, 11, 13\}$

- 8 Rajah 3 menunjukkan satu gambar rajah Venn.
Diagram 3 shows a Venn diagram.



Rajah 3 / Diagram 3

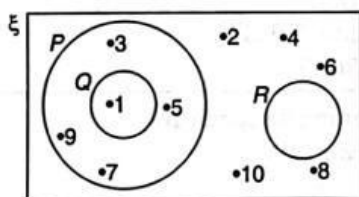
Nyatakan hubungan antara set ξ , R dan S .
State the relationship between sets ξ , R and S .

- A $S \not\subset R \subset \xi$
B $S \cap R \cap \xi$
C $S \subset R \subset \xi$
D $S \cap R \subset \xi$

Bahagian B / Section B

- 9 (a) Gambar rajah Venn dalam Rajah 4 menunjukkan hubungan antara set semesta, ξ , dan set P , Q dan R .

The Venn diagram in Diagram 4 shows the relationship between the universal set, ξ , and sets P , Q and R .



Rajah 4 / Diagram 4

Isi tempat kosong dalam setiap pernyataan berikut dengan menggunakan $\subset$, $\not\subset$, $\in$, $\notin$, ϕ atau ξ untuk membentuk satu pernyataan benar.

Fill in the blanks in each of the following statements by using $\subset$, $\not\subset$, $\in$, $\notin$, ϕ or ξ to form a true statement.

[4 markah/marks]

Jawapan/Answer:

(i) $\{3, 5, 7, 9\}$ P

(ii) 4 P

(iii) $R =$

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

- 10 (a) Tentukan sama ada setiap pernyataan berikut adalah Benar atau Palsu.
Determine whether each of the following statements is True or False.

[2 markah/marks]

Jawapan/Answer:

(i) Jika $M = \{\text{Trapezium yang mempunyai 4 sisi}\}$, maka $M = \phi$. If $M = \{\text{Trapezium that has 4 sides}\}$, then $M = \phi$.	
(ii) Jika $N = \{\text{Nombor ganjil yang boleh dibahagi tepat dengan 2}\}$, maka $N = \{\}$. If $N = \{\text{An odd number which is divisible by 2}\}$, then $N = \{\}$.	