

MODUL MATEMATIK SPM KSSM

BAB 4: OPERASI SET

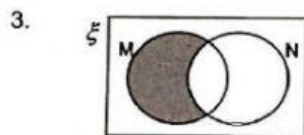
KERTAS / PAPER 1

1. Diberi $P = \{ \text{Faktor bagi } 20 \}$, maka $n(P) =$
Given that $P = \{ \text{Factor of } 20 \}$, then $n(P) =$

- | | | | |
|---|---|---|---|
| A | 4 | C | 6 |
| B | 5 | D | 7 |

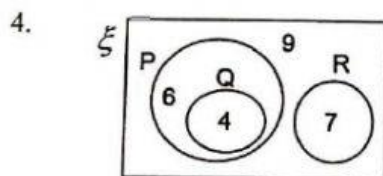
2. Antara yang berikut, manakah tidak benar?
Which statement is false.

- | | | | |
|---|--|---|---|
| A | $\{11, 19, 23\} = \{23, 11, 19\}$ | C | $0 \in \{\}$ |
| B | $\{ \text{nombor genap yang boleh dibahagi tepat dengan } 5 \} \neq \emptyset$
$\{ \text{even numbers that can be divided by } 5 \} \neq \emptyset$ | D | Jika $P = \{ \text{faktor bagi } 6 \}$ maka $n(P) = 4$.
If $P = \{ \text{factor of } 6 \}$ then, $n(P) = 4$. |



Rantau berlorek dalam gambar rajah Venn di sebelah mewakili set
Shaded region in the Venn Diagram represents the set of

- | | | | |
|---|-------------|---|--------------|
| A | $M \cap N$ | C | $M' \cap N$ |
| B | $M \cap N'$ | D | $M' \cap N'$ |

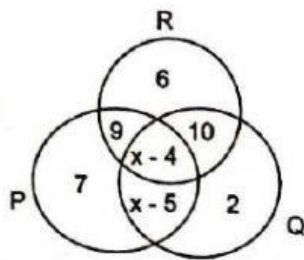


Gambar rajah Venn menunjukkan bilangan unsur dalam set ξ , P, Q dan R. Cari $n(P \cap Q \cup R)$.

The Venn diagram shows the number of elements in set ξ , P, Q dan R. Cari $n(P \cap Q \cup R)$

- | | | | |
|---|---|---|----|
| A | 6 | C | 11 |
| B | 7 | D | 13 |

5.



Diberi set semesta $\xi = P \cup Q \cup R$ dan $n(Q') = n(Q \cap R)$. Cari nilai x .

Given that universal set $\xi = P \cup Q \cup R$ and $n(Q') = n(Q \cap R)$. Find x .

A 6

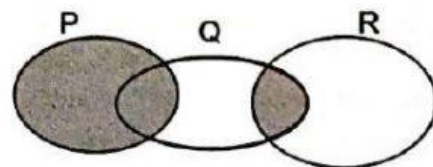
C 16

B 8

D 18

6. Gambar rajah Venn menunjukkan set semesta, $\xi = P \cup Q \cup R$. Set manakah yang mewakili kawasan berlorek?

Venn diagram shows universal set $\xi = P \cup Q \cup R$. Which set represents the shaded region?



A $(P \cap Q) \cup R$

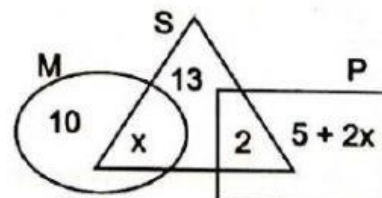
C $(P \cup Q) \cap R$

B $P \cap (Q \cup R)$

D $P \cup (Q \cap R)$

7. Gambar rajah Venn menunjukkan bilangan unsur dalam set M, set S dan set P. Set semesta, $\xi = M \cup S \cup P$. Diberi bahawa $n(M \cup S) = n(P)$, cari nilai x .

Venn diagram shows the number of elements in set M, set S dan set P. The universal set $\xi = M \cup S \cup P$. Given $n(M \cup S) = n(P)$, find x .



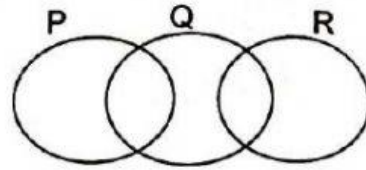
A 8

C 16

B 9

D 18

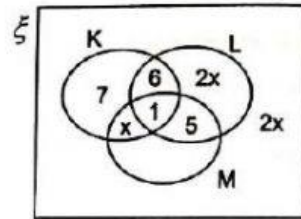
8. Gambar rajah Venn menunjukkan set semesta, $\xi = P \cup Q \cup R$. Operasi bergabung ke atas P, Q dan R yang manakah set kosong?



Venn diagram shows universal set $\xi = P \cup Q \cup R$. Which combined operation on the sets P, Q and R is an empty set?

- A $(P \cap Q)' \cap R$ C $(P \cup Q)' \cap R$
B $(P \cap Q)' \cap R'$ D $(P \cup Q)' \cap R'$

9. Gambar rajah Venn menunjukkan bilangan unsur dalam set semesta, ξ , set K, set L dan set M. Diberi $n(L) = n(K \cup M)'$, cari $n(\xi)$.



Venn diagram shows universal set, ξ , set K, set L dan set M. Given $n(L) = n(K \cup M)'$, cari $n(\xi)$.

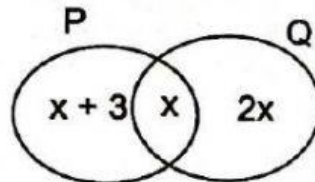
- A 37 C 49
B 40 D 54

10. Gambar rajah Venn menunjukkan bilangan peserta kuiz dalam set P dan set Q. Diberi ;
Venn diagram shows the number of quiz participants in set P and set Q. Given,

$$\xi = P \cup Q$$

P = { peserta kuiz matematik / Mathematics quiz participants }

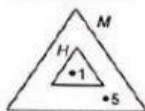
Q = { peserta kuiz Sains / Science quiz participants }



Jika bilangan peserta yang mengambil bahagian hanya satu kuiz sahaja ialah 21 orang, cari jumlah semua peserta itu.
If the number of participants who participate in only one quiz is 21, find the total number of the participants.

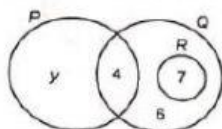
- A 27 C 33
B 29 D 35

11. Rajah berikut menunjukkan gambarajah Venn dengan set H dan set M dengan keadaan set semesta $\xi = H \cup M$.
The following diagram shows a Venn diagram with sets H and M such that the universal set $\xi = H \cup M$.



Senaraikan semua subset bagi set M .
List all the subsets of set M .

- A $\{5\}$
B $\{1\}, \{5\}$
C $\{1\}, \{5\}, \{1, 5\}$
D $\{1\}, \{1\}, \{5\}, \{1, 5\}$
12. Rajah berikut ialah gambarajah Venn yang menunjukkan bilangan unsur dalam set P , set Q dan set R .
The following diagram is a Venn diagram showing the number of elements in sets P , Q and R .



Diberi bahawa set semesta $\xi = P \cup Q \cup R$ dan $n(\xi) = 33$. Cari nilai bagi $n(R)$.
Given that the universal set $\xi = P \cup Q \cup R$ and $n(\xi) = 33$. Find the value of $n(R)$.

- A 7
B 10
C 16
D 26
13. Senaraikan semua subset bagi set $S = \{+, \times, \div\}$.
List all the subsets of set $S = \{+, \times, \div\}$.

- A $\{+\}, \{\times\}, \{\div\}$
B $\{+\}, \{\times\}, \{\div\}, \{ \}$
C $\{+\}, \{\times\}, \{\div\}, \{+, \times\}, \{+, \div\}, \{\times, \div\}, \{+, \times, \div\}$
D $\{+\}, \{\times\}, \{\div\}, \{+, \times\}, \{+, \div\}, \{\times, \div\}, \{+, \times, \div\}, \{ \}$

14. Diberi set semesta $\xi = \{x : 7 \leq x \leq 30, x \text{ ialah integer}\}$.
Given that the universal set $\xi = \{x : 7 \leq x \leq 30, x \text{ is an integer}\}$.

set $H = \{x : x \text{ ialah gandaan bagi } 4\}$ dan

set $H = \{x : x \text{ is a multiple of } 4\}$ and

set $R = \{x : x \text{ ialah gandaan bagi } 8\}$.

set $R = \{x : x \text{ is a multiple of } 8\}$.

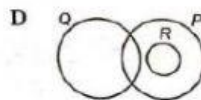
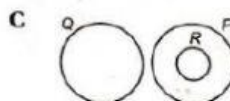
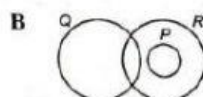
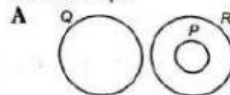
Antara pernyataan berikut, yang manakah adalah benar?

Which of the following statements is true?

- A $H \subset R$
B $R \subset H$
C $H \cap R = H$
D $H \cap R = R$

15. P , Q dan R ialah tiga set. Diberi bahawa set semesta $\xi = P \cup Q \cup R$, $P \subset R$ dan $Q \cap R \neq \phi$.
Antara gambarajah Venn berikut, yang manakah mewakili hubungan itu?

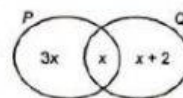
P , Q dan R are three sets. Given that the universal set $\xi = P \cup Q \cup R$, $P \subset R$ and $Q \cap R \neq \phi$.
Which of the following Venn diagrams shows the relationship?



16. Diberi bahawa set $P = \{1, 4, 9, 16\}$, set $Q = \{3, 6, 9, 12, 15, 18\}$ dan set $R = \{2, 4, 6, 8, 9, 10, 12, 16\}$.
Senaraikan semua unsur bagi set $Q \cup (P \cap R)$.
Given that set $P = \{1, 4, 9, 16\}$, set $Q = \{3, 6, 9, 12, 15, 18\}$ and set $R = \{2, 4, 6, 8, 9, 10, 12, 16\}$. List all the elements of set $Q \cup (P \cap R)$.

- A 4, 9
B 1, 3, 4, 6, 9, 16
C 3, 4, 6, 9, 12, 15, 16, 18
D 1, 2, 3, 4, 6, 8, 9, 10, 12, 15, 16

17. Rajah berikut ialah gambarajah Venn yang menunjukkan bilangan pelanggan dalam set P dan set Q . Diberi bahawa set semesta $\xi = P \cup Q$, set $P = \{\text{pelanggan yang membeli buku}\}$ dan set $Q = \{\text{pelanggan yang membeli alat tulis}\}$.
The following diagram is a Venn diagram showing the number of customers in set P and set Q . Given that the universal set $\xi = P \cup Q$, set $P = \{\text{customers who buy books}\}$ and set $Q = \{\text{customers who buy stationery}\}$.



Jika bilangan pelanggan yang membeli hanya satu barang sahaja ialah 34 orang, cari jumlah bilangan pelanggan itu.

If the number of customers who buy only one item is 34 persons, find the total number of the customers.

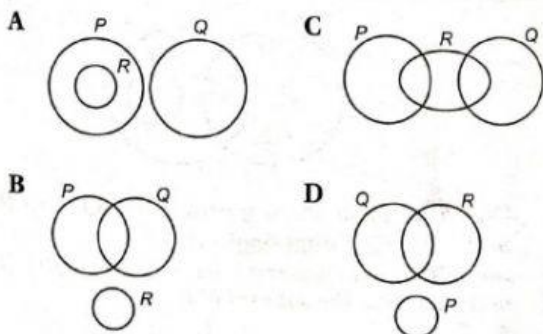
- A 42
B 50
C 66
D 138

18. P , Q dan R ialah tiga set dengan keadaan set semesta $\xi = P \cup Q \cup R$, $P \cap Q \neq \phi$ dan $R = (P \cup Q)'$.
 P , Q and R are three sets such that the universal set $\xi = P \cup Q \cup R$, $P \cap Q \neq \phi$ and $R = (P \cup Q)'$.

Antara gambar rajah Venn berikut, yang manakah menunjukkan hubungan yang betul?

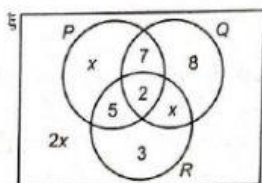
Which of the following Venn diagrams shows the correct relationship?

KBAT Menganalisis



19. Rajah berikut ialah gambar rajah Venn yang menunjukkan bilangan unsur dalam set semesta ξ , set P , set Q dan set R .

The following diagram is a Venn diagram showing the number of elements in the universal set ξ , set P , set Q and set R .



Diberi bahawa $n(P) = n[(Q \cup R)']$, cari $n(\xi)$.

Given that $n(P) = n[(Q \cup R)']$, find $n(\xi)$.

- A** 39 **C** 53
B 46 **D** 81

20. Antara gambar rajah Venn berikut, yang manakah menunjukkan set $(P \cap Q) \cup R$?

Which of the following Venn diagrams shows the set $(P \cap Q) \cup R$?

