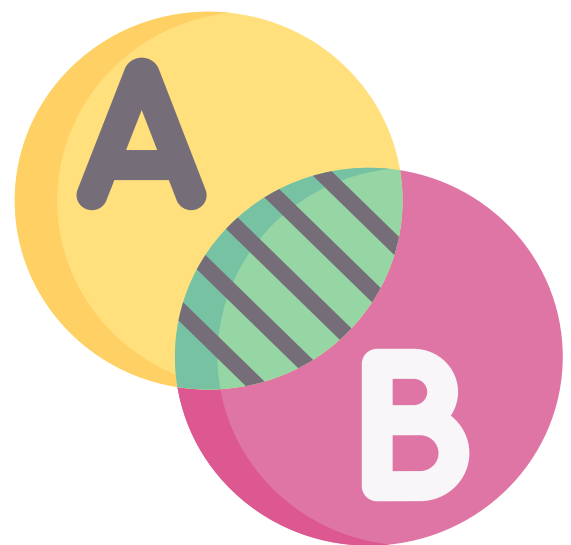
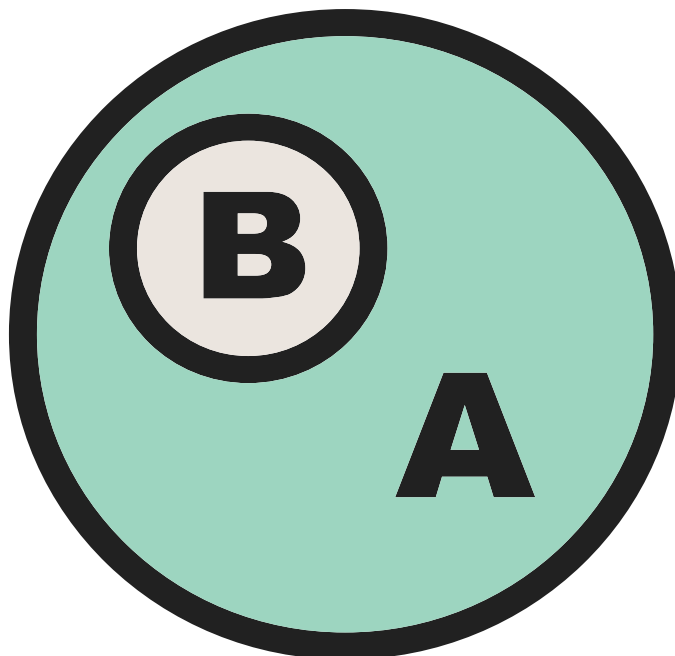




KEMENTERIAN PENDIDIKAN TINGGI
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI



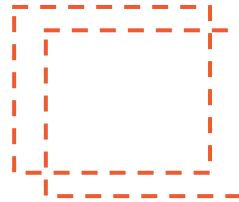
Get SETS



NORMI BINTI ISMAIL | SALIHAH BINTI ZAKARIA

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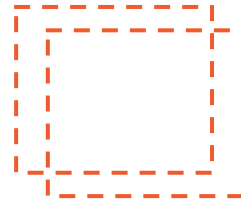


Get SETS Go!

By:

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Department of Mathematics, Science & Computer
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Published by:
Politeknik Kuala Terengganu
Jalan Sultan Ismail, 20200 Kuala Terengganu, Terengganu



09-6204100



09-6204102

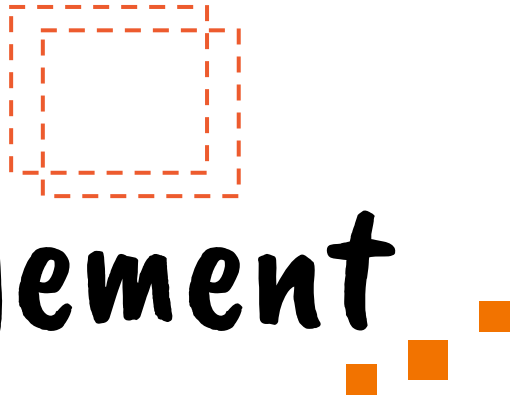


Cataloguing-in-Publication Data

Perpustakaan Negara Malaysia

A catalogue record for this book is available
from the National Library of Malaysia

eISBN 978-967-2240-64-8



Acknowledgement

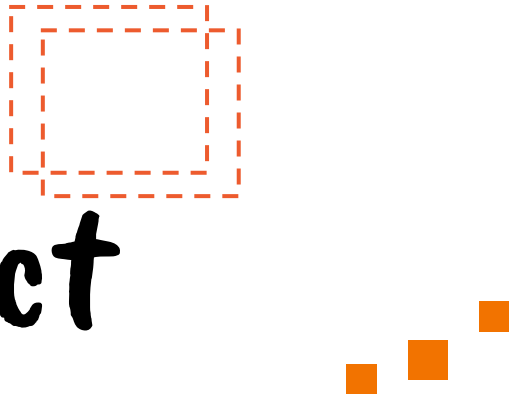
With the blessings and guidance of Allah, the Most Compassionate, the Most Merciful.

All praise and gratitude be to Allah S.W.T for His blessings, strength, patience, and inspiration that have enabled the successful completion of this **Get Sets Go!** e-book.

This publication is the result of a unified and collaborative effort from various parties. Our highest appreciation is extended to the Department of Mathematics, Science and Computer, Politeknik Kuala Terengganu, for their valuable ideas, constructive feedback, and unwavering support throughout the writing process.

It is our sincere hope that this e-book will serve as a useful reference, contributing towards the enhancement of knowledge and understanding, particularly among students and lecturers in the relevant fields of study.

Thank you.



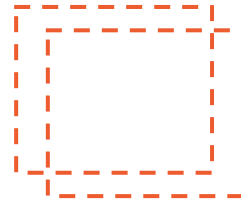
Abstract

This e-book is designed as a comprehensive yet practical learning resource on the topic of **Sets**. It covers four main sections: **Introduction, Set Notation, Venn Diagram, and Past Year Questions**.

Each section is structured to build students' understanding step by step, starting from basic concepts to applied problem solving.

To enhance learning, the e-book includes several interactive features such as “**Your Learning Mirror**” for self-reflection, **examples with step-by-step solutions**, and a “**Try This!**” section to encourage practice. In addition, **videos are embedded** to provide clearer explanations of key concepts and methods. With this combination of theory, practice, and multimedia support, the e-book aims to make the learning of **Sets** more engaging, accessible, and effective for students.

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03	VENN DIAGRAM	... 17
04	PAST YEAR QUESTION	... 32

01

INTRODUCTION



INTRODUCTION

01 Definition

A **set** is a well-defined collection of different objects where the order does not matter. The objects in a set are called elements or members.

02 Determining a set

Two ways to determine or represent a set are by listing (**roster form**) or description (**set builder notation**):

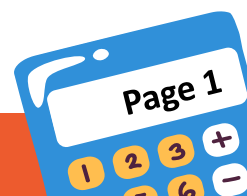
Roster
Form

Example:

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

Name of
the set

Elements
in set A





INTRODUCTION

The set
builder
notation

Example:

$$B = \{x \mid x = 2k + 1, 0 \leq k \leq 3\}$$

$$C = \{x \mid x \in \mathbb{Z} \text{ and } x^2 < 12\}$$



Set B read as:

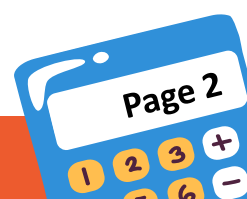
“**B** is the set of all **x** such that **x** is equal to **2k + 1** where k is greater than or equal to 0 and k less than or equal to 3”

Your Learning



Mirror

Did you know how to read Set C ?





INTRODUCTION

03 Examples

-  The set of days in a week
-  The set of colours in a rainbow
-  The set of planets in the Solar System
-  The set of writing tools in a pencil case

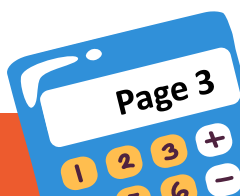


Your Learning



Mirror

Can you find the elements of the above sets? Can you think of another example of a set?

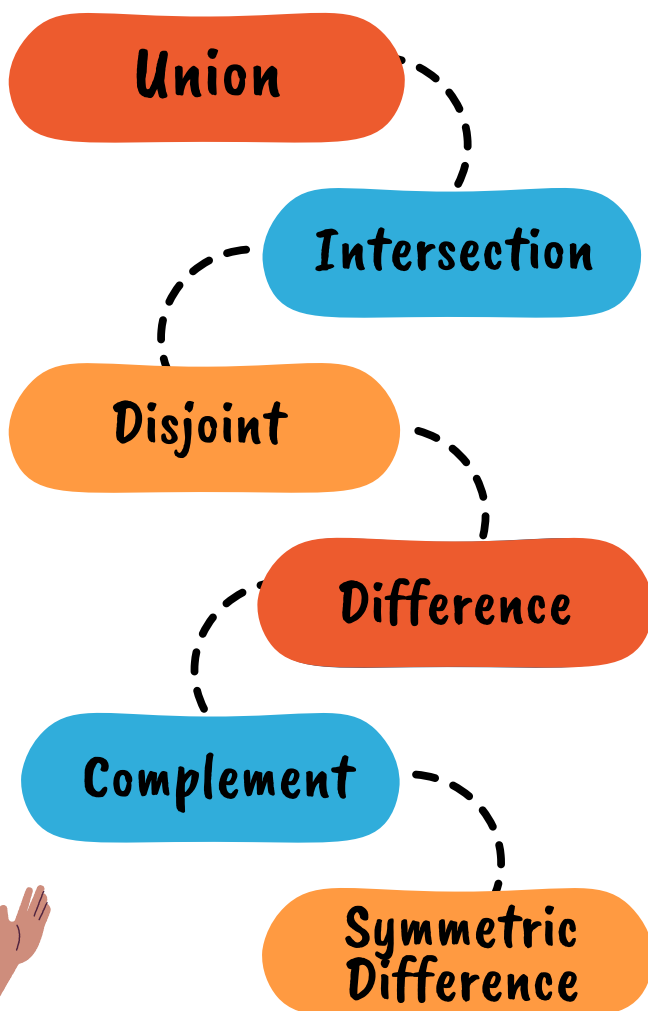


02

SET NOTATION



SET NOTATION



S E T S

There are many **set notations** and symbols, including the basic ones listed on pages 5 to 8. The exercises provided mainly focus on the **operations** shown above.

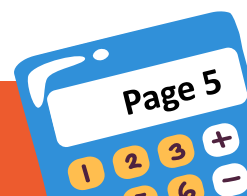


SET NOTATION

	Symbol	Symbol Name	Meaning / definition	Example
01	$\{\}$	group of elements	a collection of elements	$A=\{3,7,9,14\}$, $B=\{9,14,28\}$
02	$a \in A$	element of	set membership	$A=\{3,9,14\}$, $3 \in A$
03	$x \notin A$	not element of	no set membership	$A=\{3,9,14\}$, $1 \notin A$
04	$\emptyset$	empty set	a set with no element	C is a set of even number greater than 6 and less than 8. $C = \emptyset, C = \{\}$
	$\{\}$			
05	$A \cup B$	union	objects that belong to set A or set B	$A=\{3,7,9,14\}$, $B=\{9,14,28\}$ $A \cup B=\{3,7,9,14,28\}$
06	$A \cap B$	intersection	objects that belong to set A and set B	$A=\{3,7,9,14\}$, $B=\{9,14,28\}$ $A \cap B=\{9,14\}$



Take note that $\{\emptyset\}$ is not an empty set. $\{\emptyset\}$ is a set with one element, which is $\emptyset$.





SET NOTATION

07

Symbol	Symbol Name	Meaning / definition	Example
$A \cap B = \emptyset$	disjoint set	a set that does not include any common elements	$A=\{1,3,5\}$, $B=\{2,4,6\}$

08

$A \Delta B$	symmetric difference	objects that belong to A or B but not to their intersection	$A=\{3,9,14\}$, $B=\{1,2,3\}$, $A \Delta B = \{1,2,9,14\}$ $A \oplus B = \{1,2,9,14\}$
$A \oplus B$			

09

A^c	complement	all the objects that do not belong to set A	$U=\{0,1,2,3,4,5,6,7,8,9\}$ $A=\{0,2,4,6,8\}$ $A^c=\{1,3,5,7,9\}$
A'			
$\overline{A}$			

10

$A \setminus B$	difference or relative complement	objects that belong to A and not to B	$A=\{3,9,14\}$, $B=\{1,2,3\}$ $A \setminus B=\{9,14\}$ $A - B=\{9,14\}$
$A - B$			





SET NOTATION

	Symbol	Symbol Name	Meaning / definition	Example
11	$A \subseteq B$	subset 	subset has less elements or equal to the set	$\{9,14,28\} \subseteq \{9,14,28\}$
12	$P(A)$	power set	all subsets of A	If $A = \{1, 2, 3\}$, then $P(A) = \{\emptyset, \{1\}, \{2\}, \{3\}, \{1,2\}, \{1,3\}, \{2,3\}, \{1,2,3\}\}$
13	$A = B$	equality	both sets have the same members	$A = \{3,9,14\}$, $B = \{3,9,14\}$ So, $A = B$
14	$A \times B$	Cartesian product	set of all ordered pairs from A and B	$A = \{3, 9\}$, $B = \{1, 2\}$
15	(a, b)	ordered pair	collection of 2 elements	$A \times B = \{(3,1), (3,2), (9, 1), (9, 2)\}$



SET NOTATION

	Symbol	Symbol Name	Meaning / definition	Example
16	$ A $	cardinality	the number of elements of set A	$A=\{3,9,14\}$, $ A =3$, $\#A=3$
	$\#A$			
17	U	universal set 	set of all possible values	$U = \{\text{all natural numbers}\}$ $U = \{x \mid x \text{ is a natural number and } 1 < x < 10\}$
18	$\mathbb{N}_0$	natural numbers set (with zero)	$\mathbb{N}_0 = \{0,1,2,3,4,\dots\}$	$0 \in \mathbb{N}_0$
19	$\mathbb{N}_1$	natural numbers set (without zero)	$\mathbb{N}_1 = \{1,2,3,4,5,\dots\}$	$6 \in \mathbb{N}_1$
20	$\mathbb{Z}$	integer numbers set	$\mathbb{Z} = \{\dots-3,-2,-1,0,1,2,3,\dots\}$	$-6 \in \mathbb{Z}$
21	$\mathbb{Z}^+$	positive integer numbers set	$\mathbb{Z} = \{\dots-3,-2,-1,0,1,2,3,\dots\}$	$6 \in \mathbb{Z}^+$



SET NOTATION

Examples with Solution

Example 1

Given,

$$U = \{x: 1 \leq x \leq 15, x \text{ is an integer}\},$$

$$P = \{x: x \text{ is even}\},$$

$$Q = \{x: x \text{ is a multiple of } 3\} \text{ and}$$

$$R = \{x: x < 5\}.$$

Find $P' \cap Q' \cup R$.

Solution



$$U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\}$$

$$P = \{2, 4, 6, 8, 10, 12, 14\}$$

$$Q = \{3, 6, 9, 12, 15\}$$

$$R = \{1, 2, 3, 4\}$$

$$P' = \{1, 3, 5, 7, 9, 11, 13, 15\}$$

$$Q' = \{1, 2, 4, 5, 7, 8, 10, 11, 13, 14\}$$

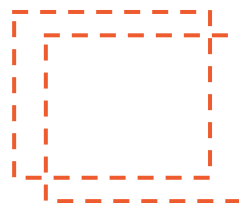
$$P' \cap Q' = \{1, 5, 7, 11, 13\}$$

$$\therefore P' \cap Q' \cup R = \{1, 2, 3, 4, 5, 7, 11, 13\}$$





SET NOTATION



Examples with Solution

Example 2

Let:

- $U = \{x: 5 \leq x \leq 20, x \text{ is an integer}\}$
- $A = \{x: x \text{ is prime number}\}$
- $B = \{x: x \text{ is a multiple of } 5\}$
- $C = \{x: \text{sum of digits} > 6\}$

Find $n(A' \cap B \cup C)$.

Solution



$U = \{5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20\}$

$A = \{5, 7, 11, 13, 17, 19\}$

$B = \{5, 10, 15, 20\}$

$C = \{16, 17, 18, 19\}$

$A' = \{6, 8, 9, 10, 12, 14, 15, 16, 18, 20\}$

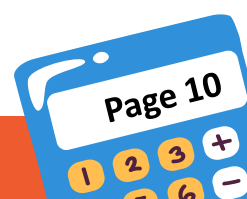
$A' \cap B = \{10, 15, 20\}$

$A' \cap B \cup C = \{10, 15, 16, 17, 18, 19, 20\}$

$\therefore n(A' \cap B \cup C) = 7$

Digits whose sum of digits is more than 6:

$10 \rightarrow 1 + 0 = 1$	X
$11 \rightarrow 1 + 1 = 2$	X
$12 \rightarrow 1 + 2 = 3$	X
$13 \rightarrow 1 + 3 = 4$	X
$14 \rightarrow 1 + 4 = 5$	X
$15 \rightarrow 1 + 5 = 6$	X
$16 \rightarrow 1 + 6 = 7$	✓
$17 \rightarrow 1 + 7 = 8$	✓
$18 \rightarrow 1 + 8 = 9$	✓
$19 \rightarrow 1 + 9 = 10$	✓
$20 \rightarrow 2 + 0 = 2$	X





SET NOTATION



1. Let $A = \{1, 2, 4, a, b, c\}$. Identify each of the following as **true** or **false**:

- | | |
|--------------------|----------------------|
| a) $2 \in A$ | b) $3 \in A$ |
| c) $c \in A$ | d) $\emptyset \in A$ |
| e) $\{\} \notin A$ | f) $A \in A$ |

Answer:

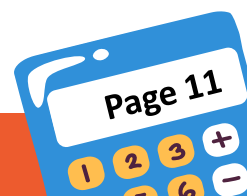
- | | |
|----|----|
| a) | b) |
| c) | d) |
| e) | f) |

2. Let $A = \{x \mid x \text{ is a real number and } x < 6\}$. Identify each of the following as **true** or **false**:

- | | |
|-----------------|-------------------|
| a) $3 \in A$ | b) $6 \in A$ |
| c) $5 \notin A$ | d) $8 \notin A$ |
| e) $-8 \in A$ | f) $3.4 \notin A$ |

Answer:

- | | |
|----|----|
| a) | b) |
| c) | d) |
| e) | f) |





SET NOTATION



3. Find the power set of each of the following sets:

a) Set $A = \{a\}$

b) Set $B = \{a, b\}$

Answer:

a)

b)

4. Suppose that $A = \{2, 4, 6\}$, $B = \{2, 6\}$, $C = \{4, 6\}$ and $D = \{4, 6, 8\}$. Determine if:

a) $A \subseteq B$

b) $B \subseteq C$

c) $C \subseteq D$

Answer:

a)

b)

c)

5. Let $U = \{0, 1, 2, 3, 4, 5, 6\}$, $A = \{1, 2, 3, 4, 5\}$ and $B = \{0, 3, 6\}$. Find:

a) $A \cup B$

b) $A \cap B$

c) $A - B$

d) $A \oplus B$

e) A'

f) $(A \cap B)'$

Answer:

a)

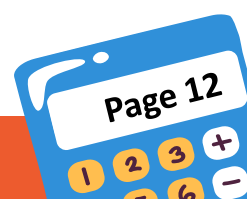
b)

c)

d)

e)

f)





SET NOTATION

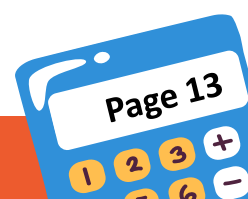


6. Describe the following set by listing their elements:

- a) The set of all positive integers that are less than ten.
- b) The set of all even positive integers that are less than twelve.
- c) $\{x \mid x \text{ is a vowel in an English alphabet}\}$
- d) $\{x \mid x \in \mathbb{Z} \text{ and } x^2 < 12\}$
- e) $\{x^2 \mid x \in \mathbb{Z} \text{ and } x^2 < 12\}$
- f) $\{x^3 \mid x \in \mathbb{Z}^+ \text{ and } x^3 \leq 125\}$
- g) $\{x \mid x \in \mathbb{Z} \text{ and } -2 \leq x \leq 2\}$
- h) $\{x \mid x \in \mathbb{Z}^+ \text{ and } x < 10\}$

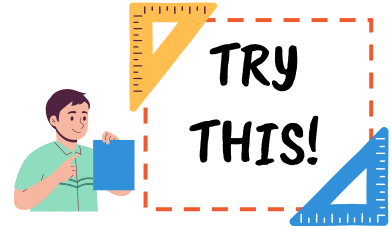
Answer:

- a)
- b)
- c)
- d)
- e)
- f)
- g)
- h)





SET NOTATION



7. The universal set, $U = \{x: 20 \leq x \leq 35, x \text{ is an integer}\}$,
 $F = \{x: x \text{ is a prime number}\}$,
 $G = \{x: x \text{ is a multiple of 3}\}$ and
 $H = \{x: x \leq 26\}$.
- a) List all the elements of set F .
 - b) List all the elements of $F \cup G \cap H'$.
 - c) Find $n(G \cap H)$.

Answer:

a)

b)

c)



SET NOTATION



8. Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$ be the universal set and let $A = \{1, 2, 3, 4, 5\}$, $B = \{4, 5, 6, 7\}$, $C = \{5, 6, 7, 8, 9\}$, $D = \{1, 3, 5, 7, 9\}$, $E = \{2, 4, 6, 8\}$ and $F = \{1, 5, 9\}$. Find:

- a) $(A \cup B) - (C \cap D)$ b) $(E - B) \cup A'$
c) $D \oplus F$ d) $|C \cup F|$

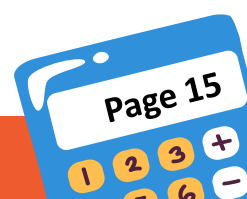
Answer:

a)

b)

c)

d)





SET NOTATION



9. Let $U = \{b, d, e, g, h, k, m, n\}$, $B = \{b, k, m\}$,
 $C = \{d, h, m, n\}$ and $D = \{d, k, n\}$. Find:

a) $C - B$ b) $C \oplus D$ c) $\overline{B \cup D}$

Answer:

- a)
b)
c)

10. Given that,

$$U = \{x: 10 \leq x \leq 20, x \text{ is an integer}\},$$

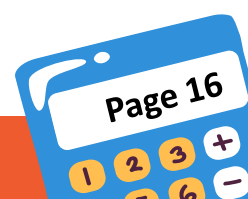
$$P = \{x: x \text{ is a multiple of } 5\},$$

$$Q = \{x: x \text{ is a factor of } 120\} \text{ and}$$

$$R = \{x: x \text{ with sum of digits less than } 5\}.$$

$$\text{Find } P' \cap Q' \cup R.$$

Answer:





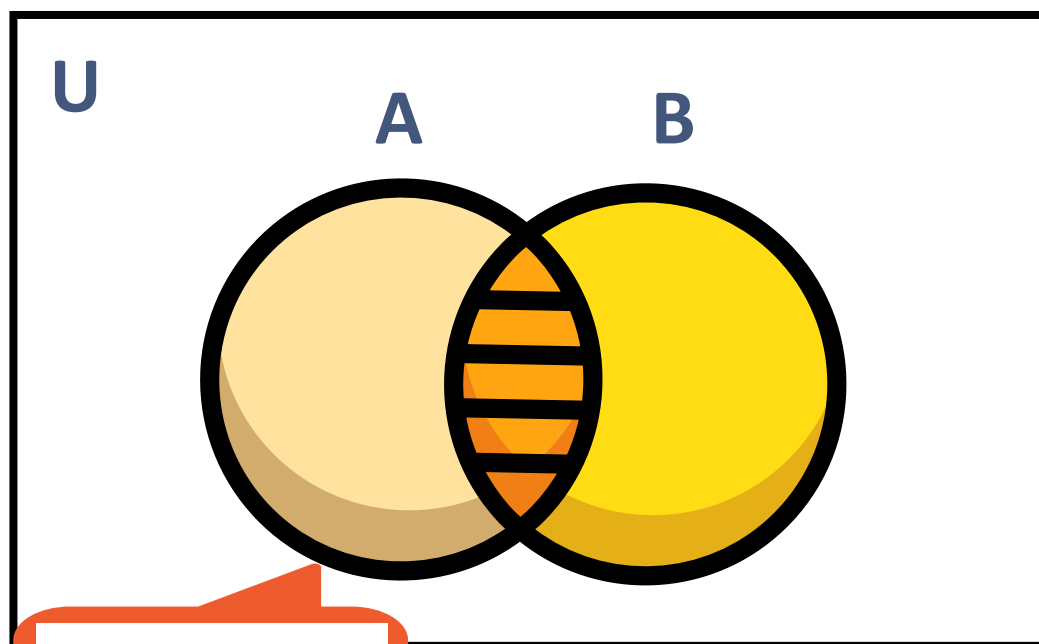
VENN DIAGRAM



VENN DIAGRAM

01 Introduction

- ❖ **Venn Diagram** used to illustrate relationships between sets.
- ❖ The Venn Diagram shown below represents the relationship between sets A & B



CIRCLES
represent sets

RECTANGULAR
represent the
universal set



VENN DIAGRAM

02 Examples with Solution

Example 1

Given the sets:

$$X = \{m, a, t, h\}$$

$$Y = \{n, o, t, e, s\}$$

$$Z = \{h, a, r, d\}$$

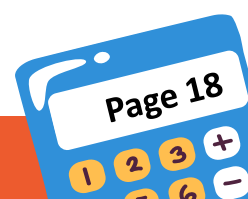
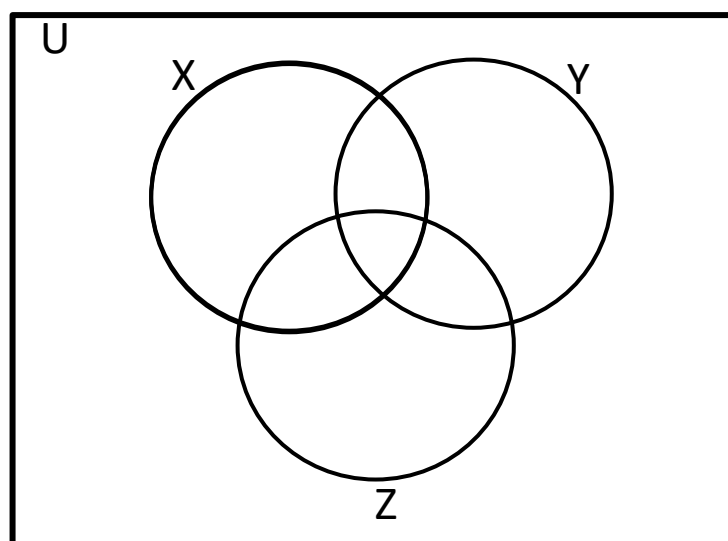
Draw a Venn diagram to represent sets X, Y, and Z.



Solution



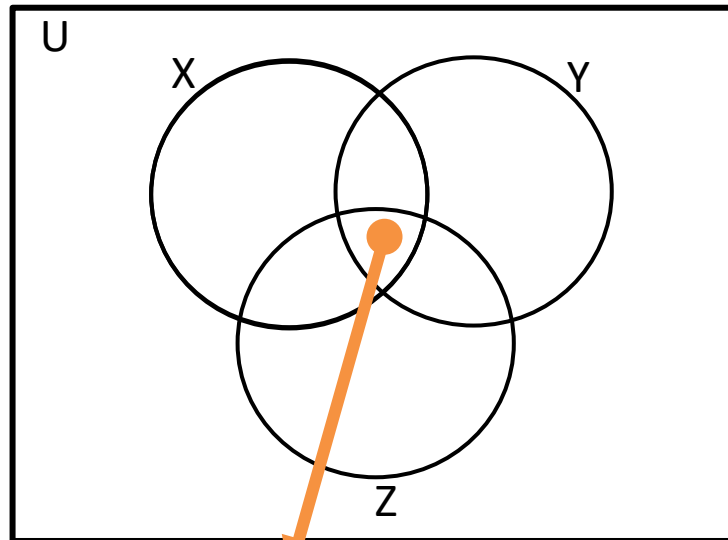
1. Draw 3 circle represent set X, Y and Z in a rectangle





VENN DIAGRAM

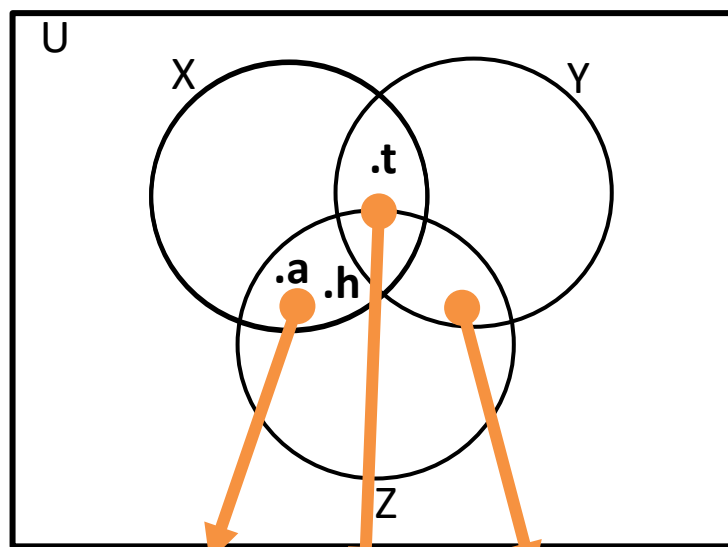
2. Find intersection of all sets: $X \cap Y \cap Z = \{\}$



leave this space blank because
the result is an empty set

3. Find intersection of $X \cap Y$, $X \cap Z$ and $Y \cap Z$:

$$X \cap Y = \{t\}, X \cap Z = \{a, h\}, Y \cap Z = \{\}$$



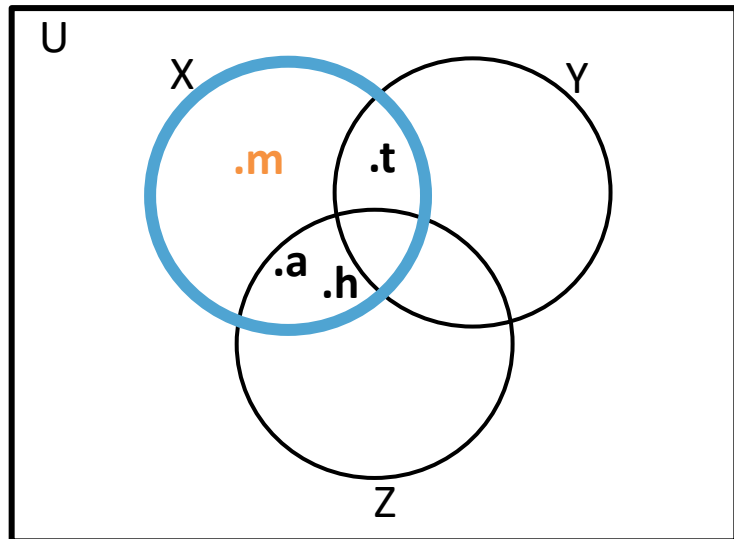
fill with elements according to
the result



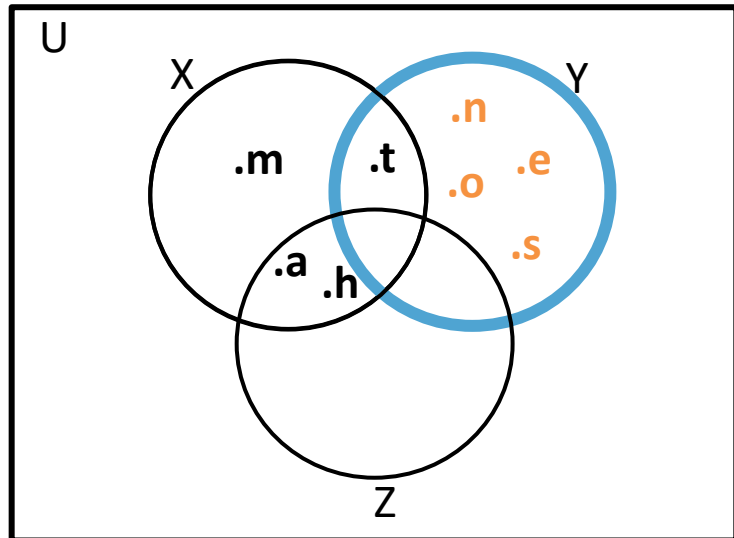
VENN DIAGRAM

4. Place the remaining elements in the Venn Diagram one by one:

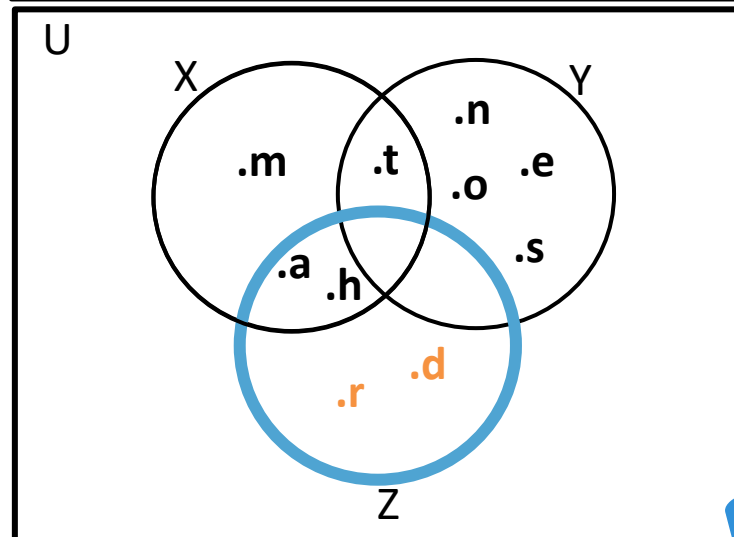
$$X = \{m, a, t, h\}$$



$$Y = \{n, o, t, e, s\}$$



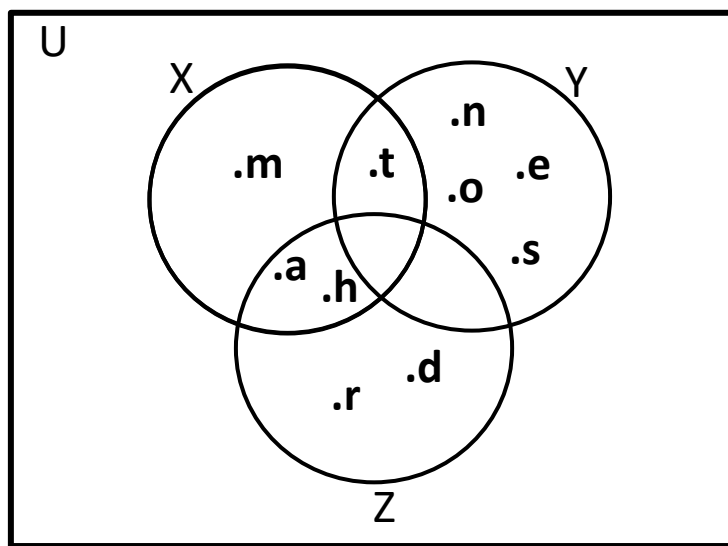
$$Z = \{h, a, r, d\}$$





VENN DIAGRAM

FINAL ANSWER





VENN DIAGRAM

02 Examples with Solution

Example 2

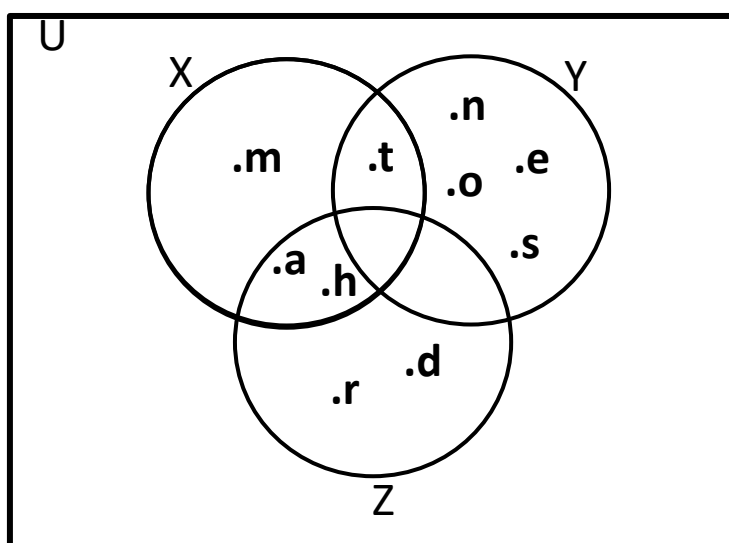
Given the sets $X = \{m, a, t, h\}$, $Y = \{n, o, t, e, s\}$ and $Z = \{h, a, r, d\}$. Find:

- i. $X \cap Y \cap Z$
- ii. $Y - X$
- iii. $X \cap Z$
- iv. $(Y \cup Z)'$

Solution



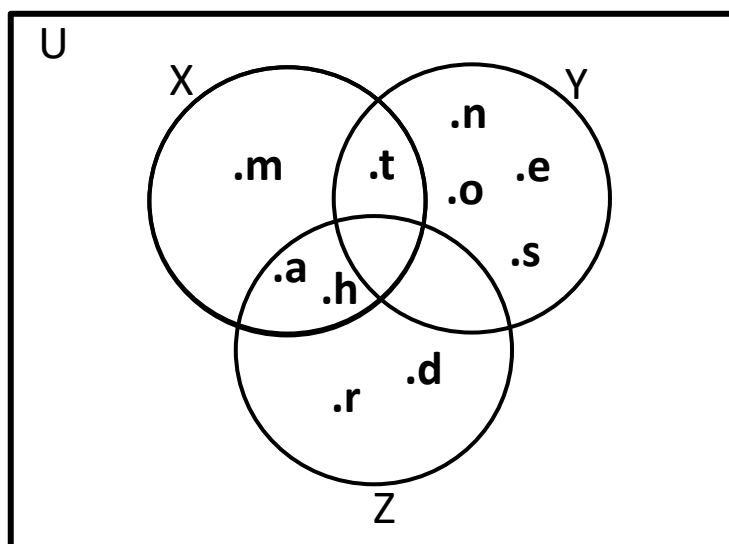
1. Draw Venn diagram represent set X, Y and Z:





VENN DIAGRAM

2. Answer all the questions based on Venn diagram:



- i. $X \cap Y \cap Z = \{ \}$
- ii. $Y - X = \{n, o, t, e, s\} - \{m, a, t, h\}$
 $= \{n, o, e, s\}$
- iii. $X \cap Z = \{m, a, t, h\} \cap \{h, a, r, d\}$
 $= \{h, a\}$
- iv. $Y \cup Z = \{n, o, t, e, s\} \cup \{h, a, r, d\}$
 $= \{n, o, t, e, s, h, a, r, d\}$
 $(Y \cup Z)' = (\{n, o, t, e, s, h, a, r, d\})'$
 $= \{m\}$



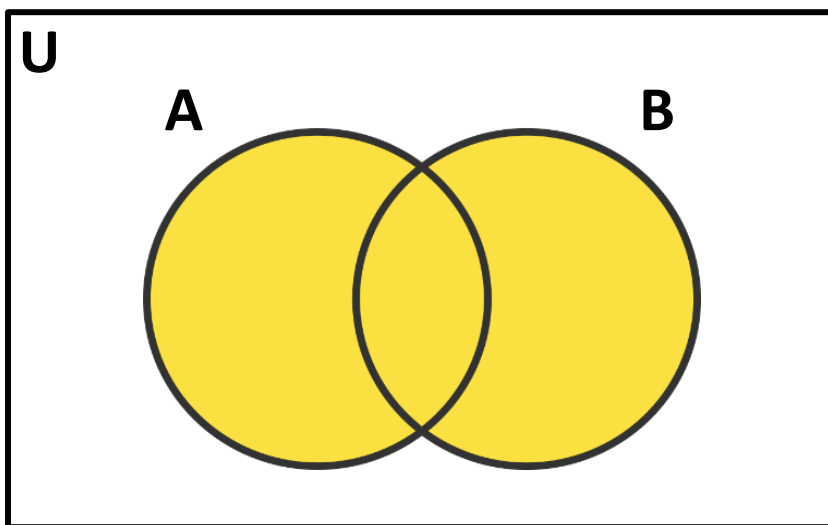
Symbol ' : Complement
The opposite of a set
Everywhere not in $Y \cup Z$



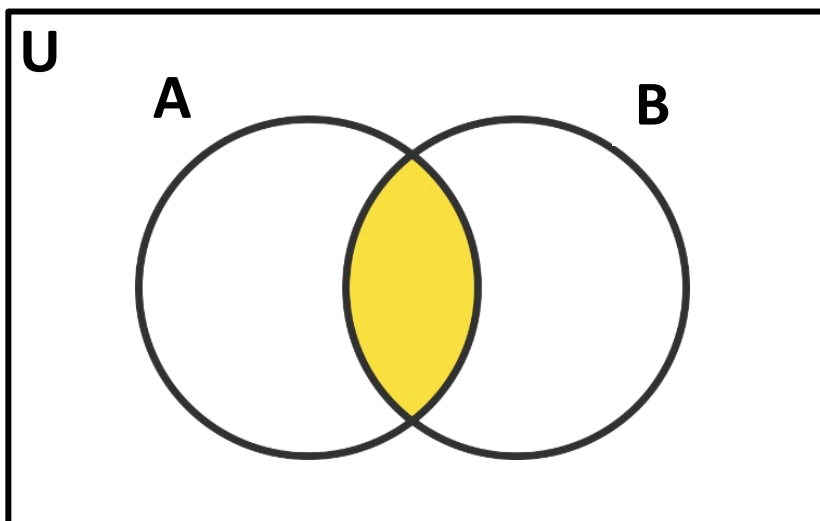
VENN DIAGRAM

03 Set Operations

 **UNION**  $A \cup B$



 **INTERSECTION**  $A \cap B$

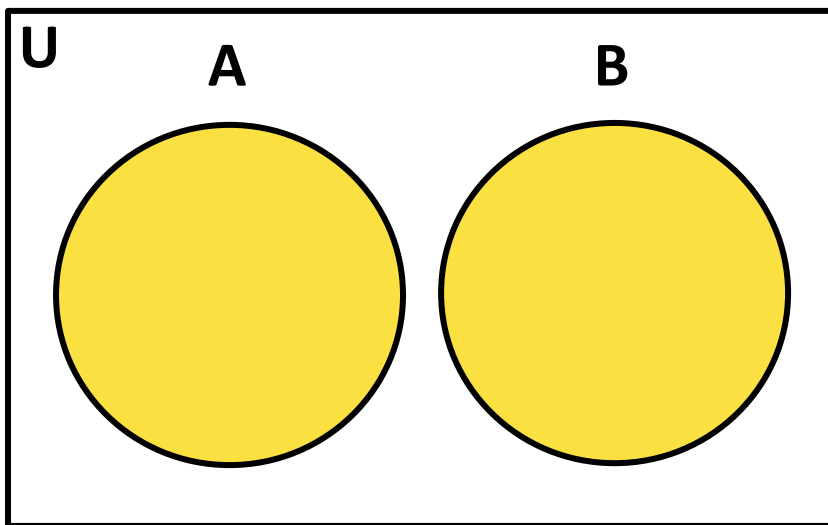




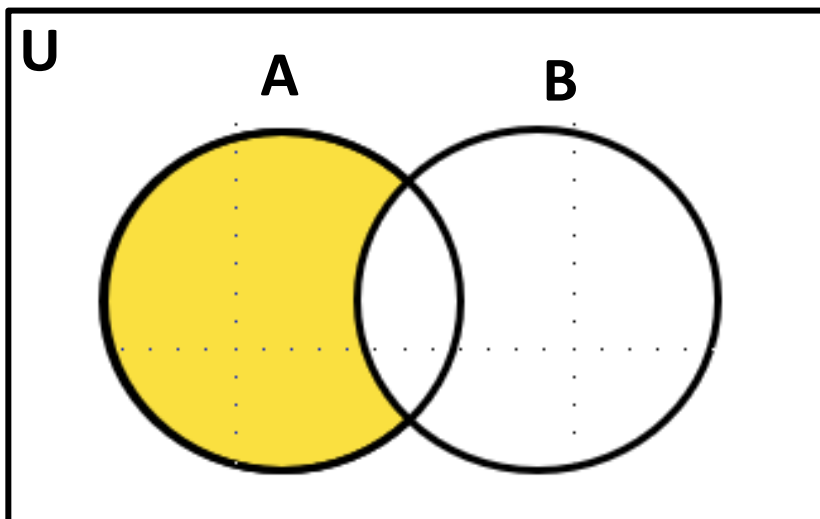
VENN DIAGRAM

03 Set Operations

 **DISJOINT**  $A \cap B = \emptyset$



 **DIFFERENCE**  $A - B$

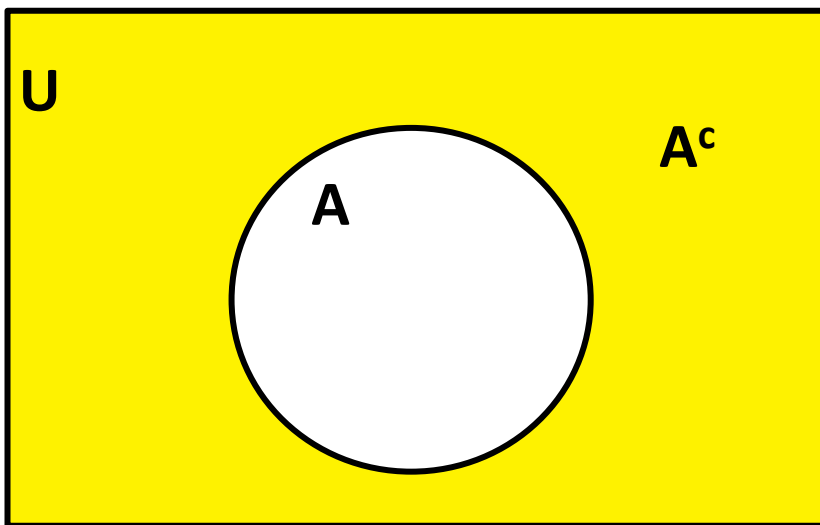




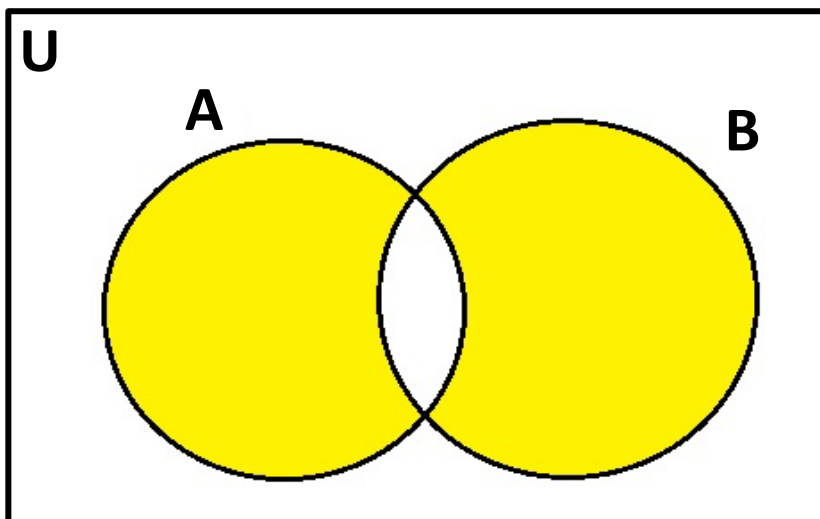
VENN DIAGRAM

03 Set Operations

 **COMPLEMENT**  A^c or A' or A_c



 **SYMMETRIC DIFFERENCE**  $A \Delta B$ or $A \oplus B$





VENN DIAGRAM

04 Examples with Solution

Example 1

Draw the Venn diagrams for $A^c \cap B$

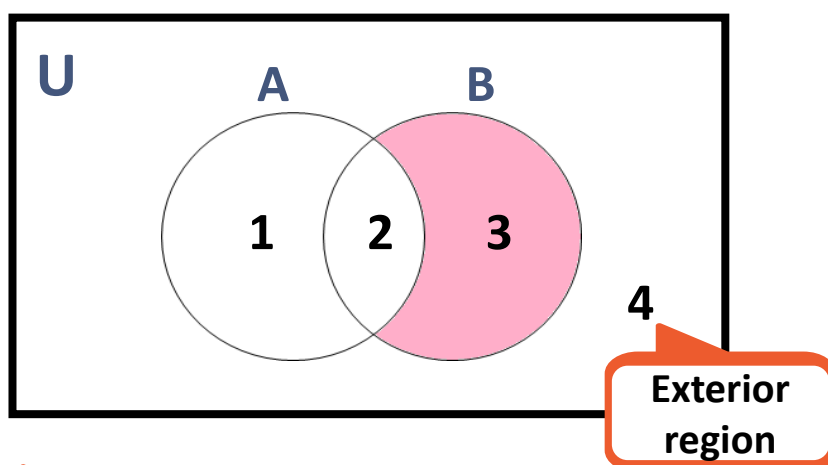
Solution



1. Label all regions with numbers
2. Identify region for $A^c = \{3, 4\}$
3. We know that $B = \{2, 3\}$.

$$\text{So, } A^c \cap B = \{3, 4\} \cap \{2, 3\} = \{3\}$$

4. Shade 'regions 3' to represent $A^c \cap B$:

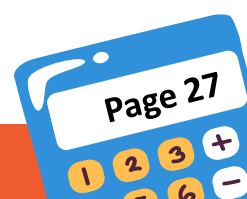


Your Learning



Mirror

How many regions are there for a Venn Diagram with 3 sets?





VENN DIAGRAM

04 Examples with Solution

Example 2

How can we represent $A \cup (B \cap C)$?

Solution



1. Perform the operations in parenthesis first,

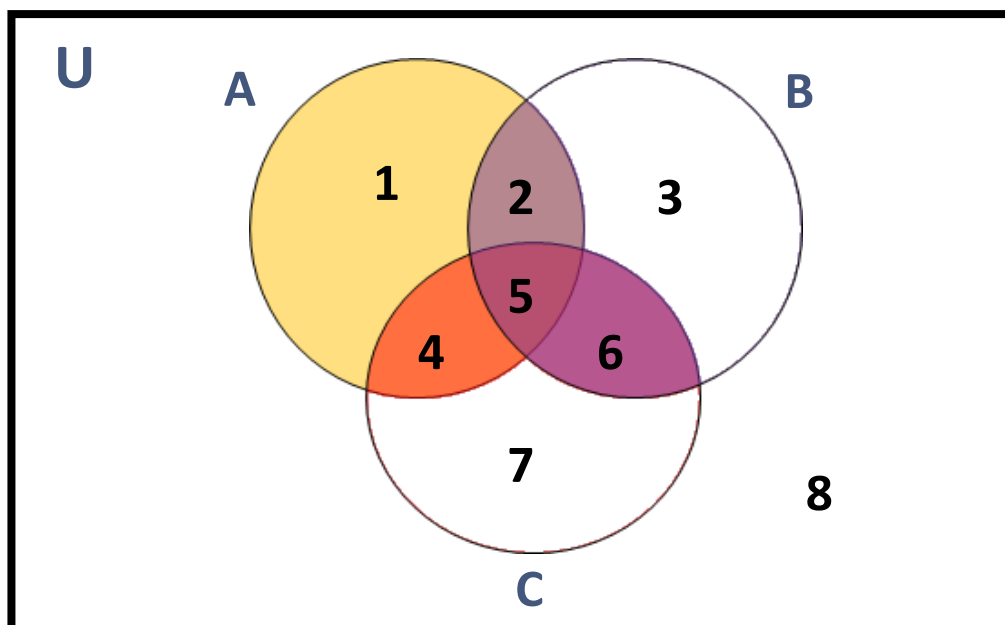
$$B \cap C = \{5, 6\}$$

2. $A = \{1, 2, 4, 5\}$. So,

$$A \cup (B \cap C) = \{1, 2, 4, 5\} \cup \{5, 6\} = \{1, 2, 4, 5, 6\}$$

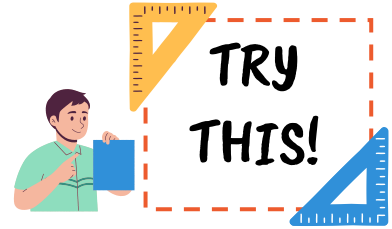
3. Shade regions 1, 2, 4, 5, 6 to represent the set

$A \cup (B \cap C)$:





VENN DIAGRAM



1. Given $A = \{a, c, h, e\}$, $B = \{s, i, c, k\}$ and $C = \{p, a, i, n\}$;
- a) Draw a Venn diagram to represents set A, B and C.
- b) List the elements of the following sets:
- $A \cap B \cap C$
 - $B - C$
 - $B \cap C$
 - $(B \cup C)'$

Answer:

a)



b)

- i.
- ii.
- iii.
- iv.



VENN DIAGRAM

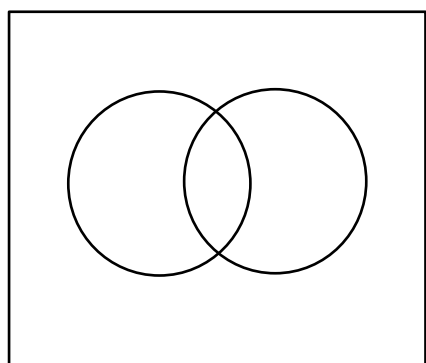


2. Use a Venn diagram to illustrate the relationship $A \subseteq B$ and $B \subseteq C$.

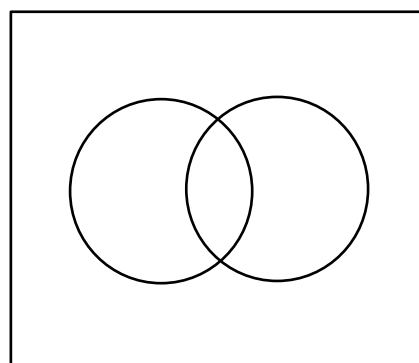


3. Draw the Venn diagrams for each of these combinations of sets A , B and C .

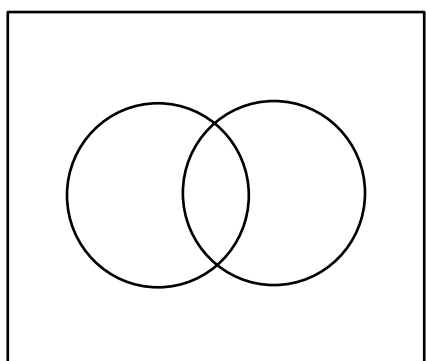
a) $A \cup B'$



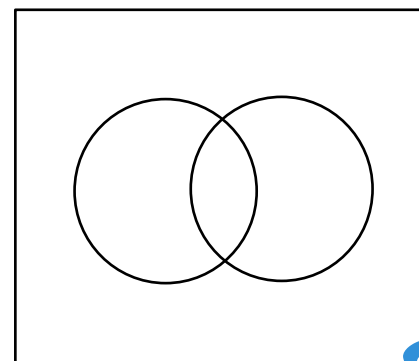
b) $A' \cup B'$



c) $A' \cap B$



d) $A' \cap B'$



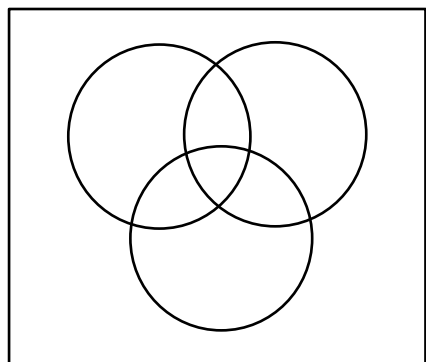


VENN DIAGRAM

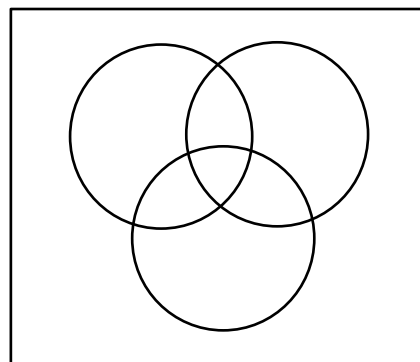


4. Draw the Venn diagrams for each of these combinations of sets A, B and C.

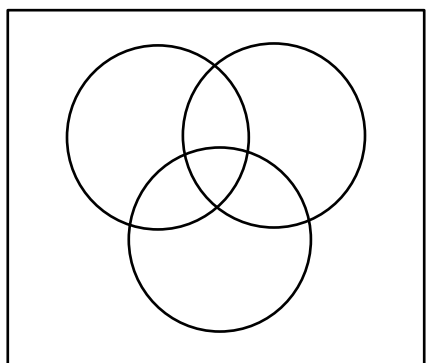
a) $A \cap (B - C)$



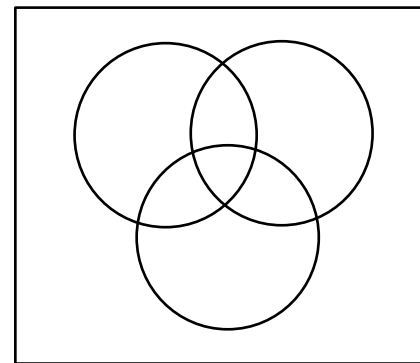
b) $(A \cap B) \cup (A \cap C)$



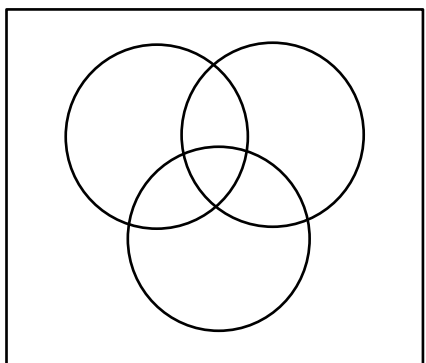
c) $A' \cup B' \cup C$



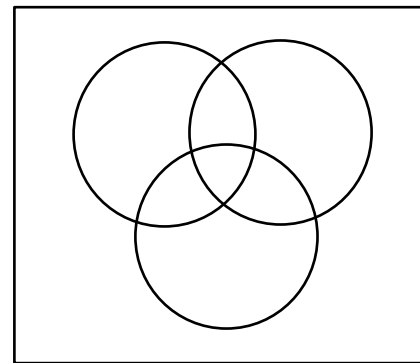
d) $A' \cap (B \cap C)'$



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



f) $(A' \cup B \cup C)'$



04

PAST YEAR QUESTION

This section contains past year questions for student practice. Answers are not provided to encourage independent learning and discussion



PAST YEAR QUESTION



Given that:

Set $\xi = \{x : 1 \leq x \leq 30, x \text{ is an integer}\}$

Set $A = \{x : x \text{ is an even number}\}$

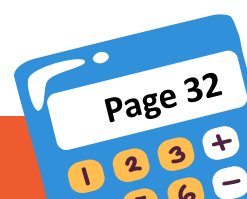
Set $B = \{x : x \text{ is a multiple of } 4\}$

Set $C = \{x : x \text{ is a multiple of } 3\}$

Express the following:

- Elements of $(A \cap B)' \cap C'$
- Elements of $[(A \cup C) \cap B]'$
- $n(A' \cap B' \cap C)$

Answer:





PAST YEAR QUESTION



Given;

Set $\xi = \{x : 12 \leq x \leq 30, x \text{ is an integer}\}$

Set $A = \{x : x \text{ is a multiple of } 3\}$

Set $B = \{x : x \text{ is a factor of } 30\}$ and

Set $C = \{x : x \text{ is a number such that the sum of the digit is an odd number}\}$

- List the elements of the sets ξ , A , B and C
- Find $n(A \cap B) \cup C$
- List the elements of $(B \cup C)'$

Answer:



PAST YEAR QUESTION



Given the Universal set, $\xi = \{ 1, 2, \dots, 15 \}$, sets A, B and C are as follows:

$A = \{ x \mid x \text{ is a positive integer less than } 12 \}$

$B = \{ x \mid x \text{ is the square of an integer less than } 20 \}$

$C = \{ x \mid x \text{ is an even positive integer less than } 10 \}$

- Determine all the elements in sets A, B and C
- Determine all the elements of $B \cap C$
- Determine all the elements of $\overline{A - C}$
- Determine $n (\overline{C} \cup B)$

Answer:



PAST YEAR QUESTION



Given that the universal set, $\xi = \{x : x \text{ is an integer, } 2 \leq x \leq 10\}$ and the following sets:

$P = \{x : x \text{ is a factor of } 20\}$

$Q = \{x : x \text{ is multiple of } 4\}$

$R = \{x : x \text{ is the prime number}\}$

- Draw the Venn diagram for the sets ξ , P , Q and R
- State $n[(P \cap R') \cup (P \cap Q')]$

Answer:



PAST YEAR QUESTION



List all the elements in the following sets:

- i. $P = \{x : 5 \leq x \leq 12, x \text{ is an integer}\}$
- ii. $Q = \{y : y \text{ is a prime number that less than } 20\}$
- iii. $R = \{z : z \text{ is a multiple of } 3 \text{ between } 61 \text{ and } 76\}$

Answer:



PAST YEAR QUESTION



Given that the universal set $\xi = \{x : 12 \leq x \leq 25, x \text{ is an integer}\}$

Set $P = \{13, 15, 16, 18\}$,

Set $Q = \{x : x \text{ is a prime number}\}$ and

Set $R = \{x : x \text{ is an odd number}\}$.

Find the elements of the set $(P \cup Q)' \cap R$

Answer:



PAST YEAR QUESTION



Given set $A = \{1, 2, 4\}$, set $B = \{3, 4, 5, 6\}$,
set $C = \{0, 1, 2, 4, 6, 7, 8, 9, 10\}$ and universal
set $= \{A \cup B \cup C\}$.

- Draw the Venn diagram that shows all the elements of the universal set, set A, set B and set C
- List all the elements of $(A \cup B) \cap C$
- How many elements are there in $(\overline{B} \cap A) \cap \overline{A \cap B}$

Answer:



PAST YEAR QUESTION



The Venn diagram in **Figure C1** shows all the elements of the universal set ξ , set M and set N.

List all the elements of the sets M' and N'

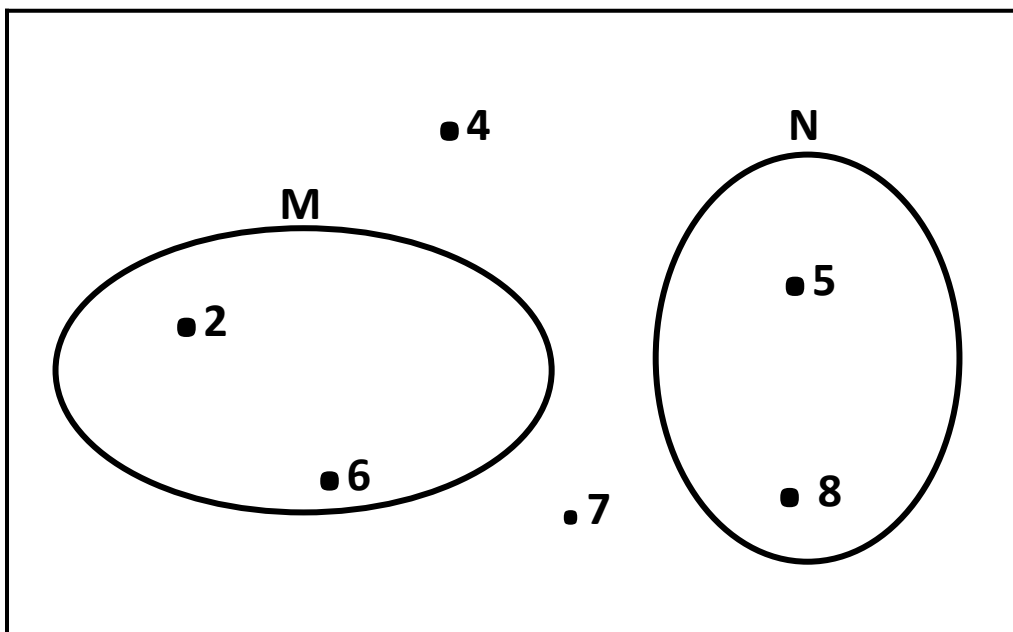


Figure C1

Answer:



PAST YEAR QUESTION



It is given that the universal set $\xi = \{x : 10 \leq x \leq 20, x \text{ is an integer}\}$,

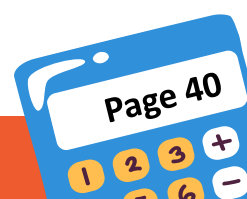
$P = \{x : x \text{ is a multiple of } 5\}$

$Q = \{x : x \text{ is a factor of } 120\}$

$R = \{x : x \text{ with sum of digits less than } 5\}$

- i. List the elements of set P and set Q
- ii. Find $n(P' \cap Q' \cup R)$

Answer:

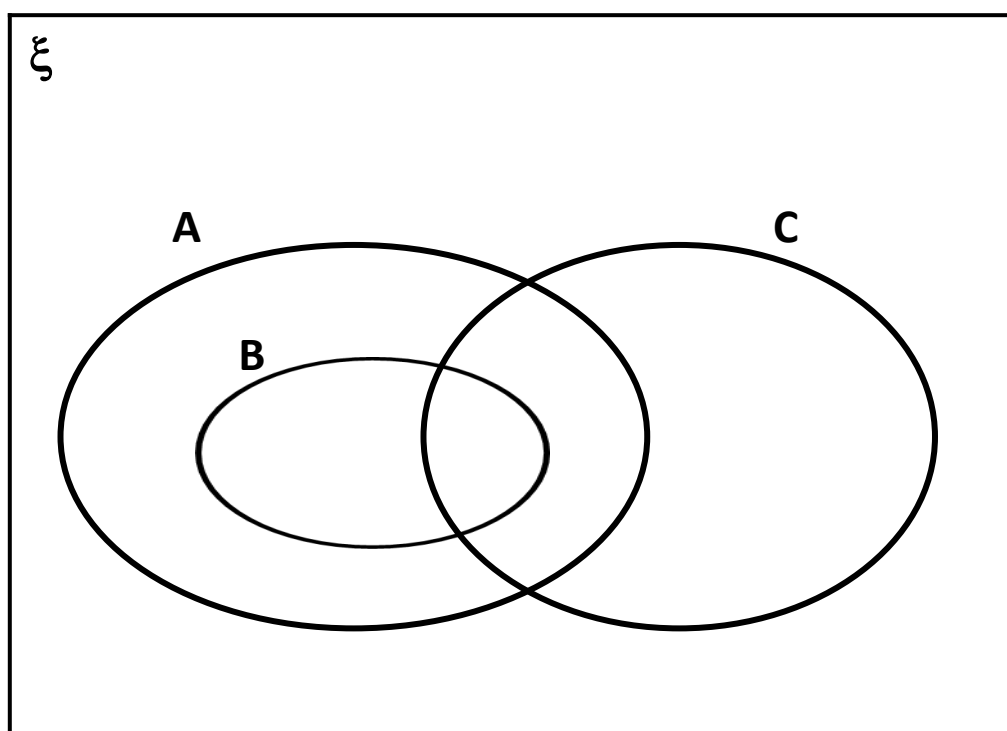




PAST YEAR QUESTION



1. The universal set, $\xi = \{x : 20 \leq x \leq 35, x \text{ is an integer}\}$, set $F = \{x : x \text{ is a prime number}\}$, set $G = \{x : x \text{ is a multiple of } 3\}$ and set $H = \{x : x \leq 26\}$
 - i. List all the elements of set F
 - ii. List all the elements of $F \cup G \cap H'$
 - iii. Find $n(G \cap H)$
2. The Venn diagram in the answer space shows set A , set B and set C . On the diagram, shade $C \cap (A' \cup B)$





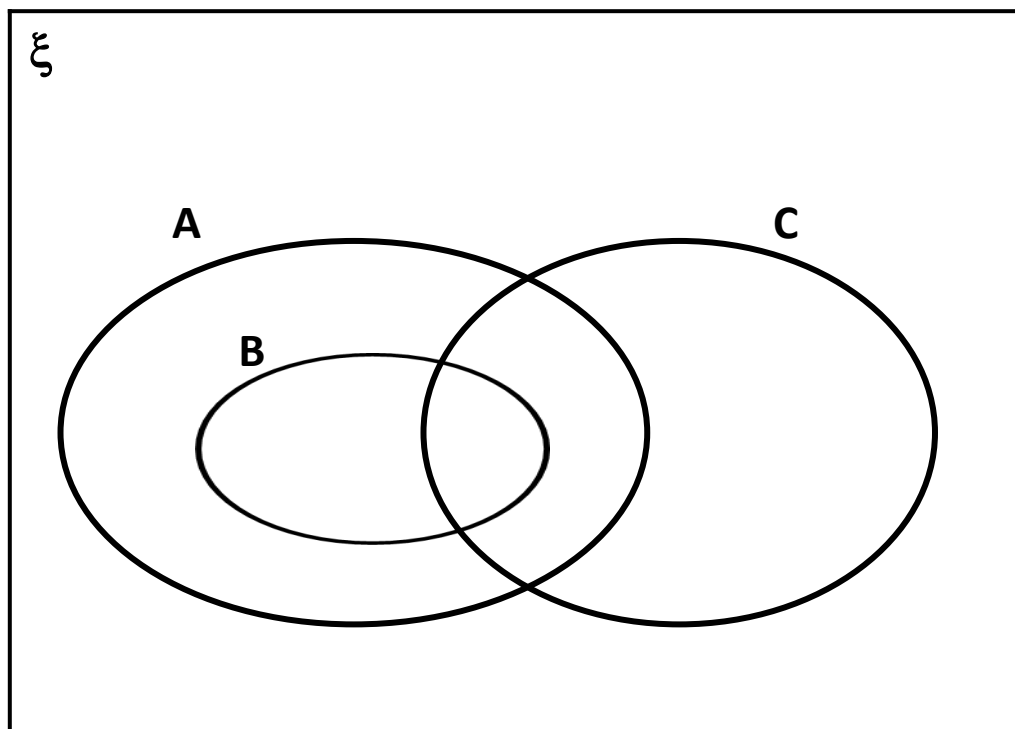
PAST YEAR QUESTION



Answer:

1.

2.



Get SETS Go!



“This e-book is a mathematics reference designed to give students a strong foundation in the topic of sets. Inside, readers will learn the basics of sets, types of sets, proper set notation, and how to use Venn diagrams to represent set relationships and operations.

The content is presented in a simple and structured way, with clear explanations, visual examples, and practice questions similar to those found in examinations. This resource aims to make learning set theory more engaging and accessible for all students.”

By:

Normi binti Ismail | Salihah binti Zakaria

Department of Mathematics, Science and Computer

Politeknik Kuala Terengganu

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