Mathematic Set Operations

From:

AL AZHAR RIZQI RIFA'I FIRDAUS

Class:

1 I

Absence:

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Major:

Information Technology

Study Program:

Informatic Engineering

exercise

List the members of these sets.
a) {x | x is a real number such that x2 = 1}
b) {x | x is a positive integer less than 12}
c) {x | x is the square of an integer and x < 100}
d) {x | x is an integer such that x2 = 2}

Use set builder notation to give a description of each of these sets.
a) {0, 3, 6, 9, 12}
b) {−3, −2, −1, 0, 1, 2, 3}
c) {m, n, o, p}

For each of these pairs of sets, determine whether the first is a subset of the second, the second is a subset of the first, or neither is a subset of the other.
a) the set of airline flights from New York to New Delhi, the set of nonstop airline flights from New York to New Delhi
b) the set of people who speak English, the set of people who speak Chinese
c) the set of flying squirrels, the set of living creatures that can fly

a. {1}
b. {1,2,3,4,5,6,7,8,9,10,11}
c. {1,2,3,4,5,6,7,8,9}
d. {empty set}

a. {x | x = 3n and n element of A, then n >= 0 && n <= 12}
b. {x | x element of A, then x >= -3 && <= 3}
c. {x | x is letter in english alphabet and x element of A{m,n,o,p}}

a. a subset of the b
b. neither set is a subset of the other
c. a subset of the b

a. equals because every element contains 1, 2, 5
b. not equals because the first set contain one element and the seccond set contain 2 element although the value is same one.
c. not equals because the first set is empty set which contain no element and the seccond set contain one element.

a. false. 0 not element of empty set
b. false. empty set not element the set of containing 0
c. true The set containing only the element 0 is not a subset of the empty set because it contains an element, which is 0. However, it is a proper subset because it is smaller than the empty set.
d. true because the empty set is subset of any set
e. true because set that containing zero is element of the set that containing zero
f. false because it is subset not proper subset
g. true because it is subset

A = {mathematic discrit, statistic}
B = {mr. ahmad, mr. rizky, mr. bagus}
A X B = {(mathematic discrit, mr. ahmad),(mathematic discrit, mr. rizky),(mathematic discrit, mr.bagus), (statistic, mr.ahmad),(statistic, mr.rizky),(statistic,mr.bagus)}

a. a n b
b. a - b
c. a u b
d. complement of a and b

a. a u b = {1,2,3,4,5,6,7,8}
b. a n b = {4,5}
c. {0,6,7,8,9,10}
d. {1,2,3}
e. {6,7,8}
f. {1,2,3,6,7,8}