Question 1:

Let A = {c, d, f, g}, B = { f, j }, and C = {d, g}. Answer each of the following

questions. Give reasons for your answers.

a. Is B ⊆ A?

b. b.Is C ⊆ A?

c. Is C ⊆ C?

d. d.Is C a proper subset of A?

Answers:

a.No, set A does not contain element j.

b.Yes, all elements of set C are in set A.

c. Yes, C has all the elements of C

d.Yes all of C is in A, and C does not equal A.

Question 2:

Which of the following sets are equal?A = {0, 1, 2}

B = {x ∈ R|−1 ≤ x < 3}

C = {x ∈ R|−1 < x < 3}

D = {x ∈ Z|−1 < x < 3}

E = {x ∈ Z+ |−1 < x < 3}

Answers:

The set D is equal to the set A.

Question 3:

a. Is 4 = {4}?

b. How many elements are in the set {3, 4, 3, 5}?

c. How many elements are in the set {1, {1}, {1, {1}}}?

Answers:

a.No, the first 4 is an element and the second 4 is a set.

b.3 unique elements

c.3 unique elements

Question 4:

a. Is 2 ∈ {2}?

b. How many elements are in the set {2, 2, 2, 2}?

c. How many elements are in the set {0, {0}}?

d. Is {0} ∈ {{0}, {1}}?

e. Is 0 ∈ {{0}, {1}}?

f. Is 3 ∈ {1, 2, 3}?

g. Is 1 ⊆ {1}?

h. Is {2} ∈ {1, 2}?

i. Is{3} ∈ {1, {2}, {3}}?

j. Is 1 ∈ {1}?

k. Is {2} ⊆ {1, {2}, {3}}?

l. g. Is {1} ⊆ {1, 2}?

m. Is1∈ {{1}, 2}?

n. Is {1} ⊆ {1, {2}}?

o. Is{1} ⊆ {1}?

Answers:

a.Yes element 2 is in the set

b.1 unique element

c.2 unique elements

d.Yes the set{0} is contained in the other set

e.No the element 0 isnt in the sets

f.Yes,element 3 is present in the set

g.No because 1 is an element so it cant be a subset.

h.No set 2 isnt in the second set

i.Yes the set is in the second set

j.Yes the element is present in the set

k.No the second set doesn’t contain element 2

l.Yes, the second set contains 1

m.No, element 1 is not in the set

n.Yes the element 1 is located in the second set

o.Yes the element 1 is located in the second set.