Q1.

a)
d)
Q2.

a) The set with all tuples \((a,b)\) where one or both of the conditions below are true:
   - \(a = 10\) and \(b\) is any integer or null.
   - \(a\) is any integer or null and \(b = 20\).

b) The set containing exactly the tuple \((10,20)\).

c) The set with all tuples \((a, b)\) where \(a\) is any integer and is not null, and \(b\) is any integer or null.

d) The set of all tuples \((a, b)\) where \(a\) and \(b\) are the same integer that is not null.

Q3.

a) 

   CREATE VIEW ManagerSummary(DeptName, MgrID, MgrName, MgrSalary, EmpCount) AS
   
   SELECT D.dname, D.managerid, E.ename, E.salary, COUNT(W.eid)
   
   FROM Department D, Employee E, Works W
   
   WHERE D.managerid=E.eid AND D.did=W.did
   
   GROUP BY D.did, D.dname, D.managerid, E.ename, E.salary;

b)

   SELECT DISTINCT MS.MgrSalary
   
   FROM ManagerSummary MS
   
   WHERE MS.DeptName = ‘Sales’;

c)

   SELECT TMP.MgrName
   
   FROM (SELECT MS.MgrID, MS.MgrName, SUM(EmpCount) AS TotalEmp
   
                FROM ManagerSummary MS
   
                GROUP BY MS.MgrID) TMP
   
   WHERE TMP.TotalEmp = (SELECT MAX(TotalEmp) FROM TMP);