1.

a. One to One
b. One to One
c. One to One
d. Many to Many

2.

a. Symmetric, transitive, Reflexive
b. reflexive, Symmetric, transitive
c. Symmetric and Transitive
d. Reflexive

3.

a.Surjective
b.Injective
c.Bijective
d.surjective

4.

a. fog = { (1,7), (2,6), (3,1), (4,3), (5,8), (6,4), (7,2), (8,5) }

b. gof = { (1,3), (2,6), (3,8), (4,7), (5,4), (6,8), (7,1), (8,5) }

c. f -1 = { (1,4), (2,1), (3,5), (4,8), (5,2), (6,3), (7,7), (8,6) }

d. gog = { (1,1), (2,4), (3,5), (4,6), (5,8), (6,2), (7,7), (8,3) }