Part One

a. Occupation(Emily, Surgeon) V Occupation(Emily, Lawyer):
b. Occupation(Joe, Actor) ∧ (Occupation(Joe, Lawyer) V Occupation(Joe, Doctor) V Occupation(Joe, Suergon))
c. ∀p Occupation(p, Surgeon) ⇒ Occupation(p, Doctors)
d. ¬Customer(Joe, Lawyer)
e. Boss(Emily, Lawyer)
f. ∃p1 ∀p2 Occupation(p1,Lawyer) ⇒ Customer(p2, p1) ∧ Occupation(p2,Doctor)
g. ∀ p1 ∃p2 Occupation(p1, Surgeon) ⇒ Customer(p1, p2) ∧ Occupation(p2,Doctor)

Part Two:

a. If two people speak the same language, then they understand each other.
b. If two people speak the same language and one person understands them, then the other person must understand them too.
c. mutualUnderstanding(x,y,) ⇒ mutualFriendship(x,y)
d. Friendship(x,y) ∧ Friendship(y,z) ⇒ Friendship(x,z)

Part Three:

a. {x/A, y/B, z, B}
b. {x/y, y/G(A, B)}
c. {x/John, y/y}
d. DNE