Q1:

1.1.1)

a)

T1*(T1->T2)->N = (T3->T4)*(T5->Number)

T1=(T3->T4)

(T1->T2)=(T5->Number)

((T3->T4)->T2=(T5->Number)

T5 =(T3->T4)

T2=Number

MGU= {(T1->(T3->T4) , T2 ->Number , T5 ->(T3->T4) }

B)

No MGU exists for the two expressions , because if we try to create equations we will get that both :

T1 = Number & T1 = Symbol

C)

We create the equations and get:

T1 = T2

So the MGU is : {T1 = T2} or {T2 = T1}

D)

Boolean , Boolean are two identical type constants , they are already equal and the MGU is :

{} (no bindings)

1.1.2))

A) true, because g is a function that takes T1 and returns T2 , we assume that T1 = Number

So T=Number -> T2 -> T3 (which is the return value for (f(g a)))

B) true, we assume that T1 = T2 , then we get :

T1 = T2 -> T1 (which is the return value for (f x))

1.2)

(lambda (x)

  (lambda (y)

```
( lambda ( z)
 ( lambda (w)
  ( lambda (u)
   u ))))))
```