

# Exercises

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## 1 First Order Terms

**Exercise 1.** Evaluate the following substitutions

- i)  $f(x, g(y))[x := g(y)]$
- ii)  $f(x, g(y))[y := z]$
- iii)  $f(x, g(y))[x := g(y), y := z]$

## 2 Lambda Terms

**Exercise 2.** Evaluate the following substitutions

- i)  $(\lambda x.(x y))[y := z]$
- ii)  $(\lambda x.(x y))[y := x]$
- iii)  $(\lambda x.(x y))[x := z]$
- iv)  $(\lambda x.(x y))[y := \lambda x.x]$
- v)  $(\lambda x.(x y))[y := \lambda y.x]$