

Exercise 1 (10 points)

For each of the following terms provide a principal type or a principal pair, if possible:

- (a) $\lambda xy. xyy$ (1 point)
- (b) **SII** (2 points)
- (c) $\lambda xz. z(\lambda y. xy)$ (2 points)
- (d) $\lambda z. z(\lambda y. zy)$ (2 points)
- (e) $\lambda z. z(\lambda y. z)$ (1 point)
- (f) $\lambda xy. y(\lambda z. z(yx))$ (2 points)

Remark: You may use an algorithm, $\lambda \rightarrow$ or any other means.