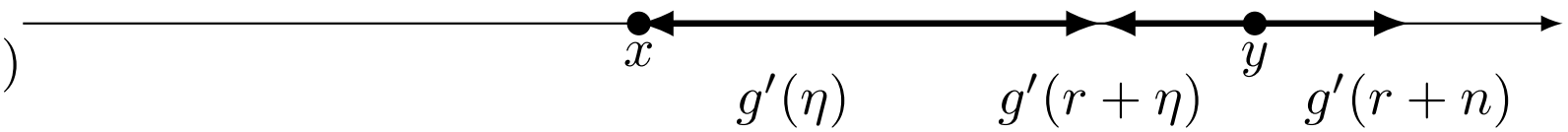
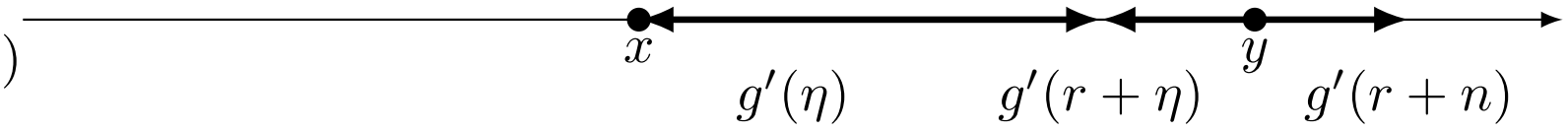
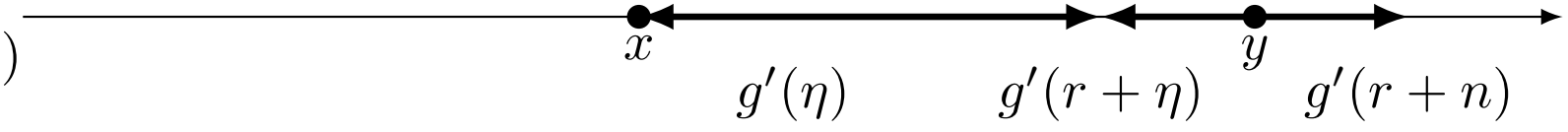
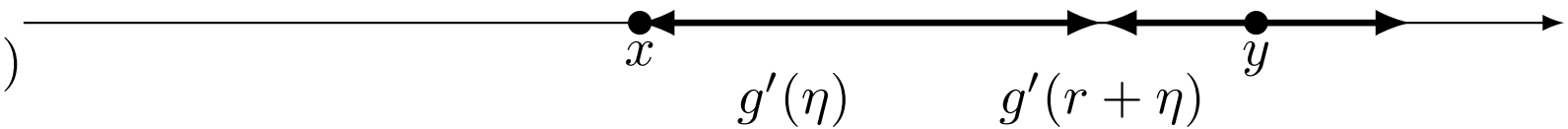
$-2\eta \leq r - d(x,y) \leq -g'(-\eta)$



$-\eta \leq r - d(x,y) \leq 0$



$0 \leq r - d(x,y) \leq \eta$



$\eta \leq r - d(x,y) \leq 2\eta$