Properties of the Distance Function:

 Let $x,y$ and $z$ be elements of $B^{m}$. Then prove that

1. $δ\left(x,y\right)=δ\left(y,x\right)$
2. $δ\left(x,y\right)\geq 0$
3. $δ\left(x,y\right)=0$ if and only if $x=y$
4. $δ\left(x,y\right)\leq δ\left(x,z\right)+δ\left(z,x\right)$