Q4:
Suppose that $\langle x, y\rangle = 0$. It follows that

$$\begin{aligned}
&\|x+y\|^2 \\
&= \langle x+y, x+y\rangle \\
&= \langle x, x\rangle + 2\langle x, y\rangle + \langle y, y\rangle \\
&= \langle x, x\rangle + \langle y, y\rangle \\
&= \|x\|^2 + \|y\|^2 \qquad \blacksquare
\end{aligned}$$