3 The point A has position vector $\begin{pmatrix} 2 \\ -6 \end{pmatrix}$. The point B has position vector $\begin{pmatrix} -3 \\ 6 \end{pmatrix}$.

(a) Find, in vector form, the displacement of B from A. [2]

(b) Find the distance AB. [1]

The point X is such that $3\overrightarrow{AB} = 2\overrightarrow{AX}$.

(c) Find the position vector of X. [2]