Definition 11.23. *[110]If M_1, M_2 are vector spaces with norms $\|\|_{M_1}$ and respectively $\|\|_{M_2}$, then φ is an isometry when*

$$\forall x, y \in M_1, \|x - y\|_{M_1} = \|\varphi(x) - \varphi(y)\|_{M_2} \qquad (11.24)$$

(rewriting the definition of distance using norms).