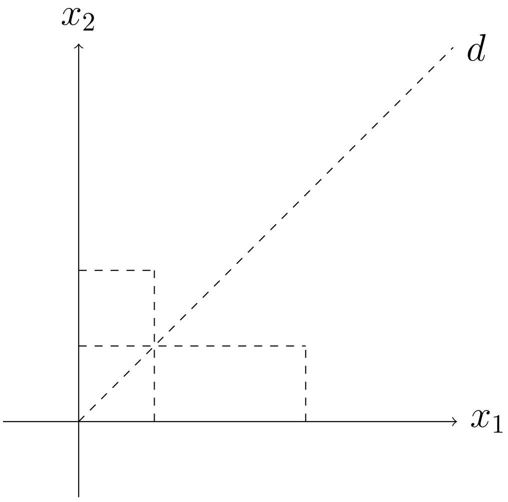
Definitie O functie $f:\mathbb{R}^2 \to \mathbb{R}^2$ se numeste izometrie dacă pentru orice $x=(x^1,x^2), y=(y^1,y^2)\in\mathbb{R}^2$
$d(x,y)=d(f(x),f(y))$
$[d((x^1,x^2),(y^1,y^2)) \overset{def}{=} \sqrt{(x^1-y^1)^2+(x^2-y^2)^2}]$

Ex: 1. Functia identică
2. Functia $f:\mathbb{R}^2\to\mathbb{R}^2, \forall x=(x^1,x^2)\in\mathbb{R}^2$
$f(x)=(x^2,x^1)$

Fie $x,y\in\mathbb{R}^2$ unde $\begin{array}{l} x=(x^1,y^2)\\ y=(y^1,x^2)\end{array}$

$d(f(x),f(y))=\sqrt{(x^2-y^2)^2+(x^1-y^1)^2}$



$d: x^2-y^1=0$
$f=\underset{(simetric)}{Sim}\ d$

3. Functia $f:\mathbb{R}^2\to\mathbb{R}^2$ $\begin{array}{c}\forall x=(x^1,x^2)\\ f(x)=(x^1+\alpha,x^2+\beta)\end{array}$

$f=T_{(\alpha,\beta)}$
$f(x)=x+(\alpha,\beta)$
$\alpha=(1,1)$