_____ transformation
zero

[MTH212] Let U and V be vector spaces over a field F, and let $T:U\to\ V$ be a one-one and onto linear transformation. The T is called
Isomorphism

[MTH212] Consider the function $T:R^{2}\to\ R^{2}:$ $T\left(x,y\right)=\ \left(x,-y\right)$ is __________
reflection

[MTH212] Let~$T:R^{2}\to R^{2}$~be the transformation~ $T\left(x_{1},x_{2}\right)=\left(x_{1},0\right)$.The null space (or kernel)~~of~T~is
$\left(0,x_{2}\right)$

[MTH212] Let $T:\ U\ \to\ V$ be defined by T(u) = u for all $u\ \in\ U$.Then T is a _______ transformation
Identity

[MTH212] Let $F:R^{4}\to R^{3}$ defined by $F\left(x,y,z,t\right)=\left(x-y+z+t,\ x+2z-t,\ x+y+3z-3t\right).\ $Find $F(0,0,0,1)$
(1,-1,-3)

[MTH212] Consider the function $p:R^{3}\to\ R^{2}:$ $p\left(x,y,z\right)=\ \left(x,y\right)$ is a _______ from R^{3} on to the xy-plane
projection

[MTH212] Let $L:R^{3}\to\ R$ be the map given by $L(x,y,z)\ =\ x\ +\ y\ +\ z$. What is nullity (L)?
2

[MTH212] Consider the linear transformation defined by $F\left(x,y,z\right)=\left(yz, x^{2}\right).\ $Find$F(2,3,4)$
(12,4)

[MTH212] Let $F:R^{3}\to\ R^{2}$ and $G:R^{3}\to\ R^{2}$ be defined by $F\left(x,y, z\right)=\left(2x,y+z\right)$ and $F\left(x,y,z\right)=\left(x-z,y\right)$, determine F +G
$\left(3x-z,2y+z\right)$